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# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Published Monthly

Vol. XXXIV, No. 5 CHICAGO, NOVEMBER, 1918 $2.00 a Year

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Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on July 15, 1918.

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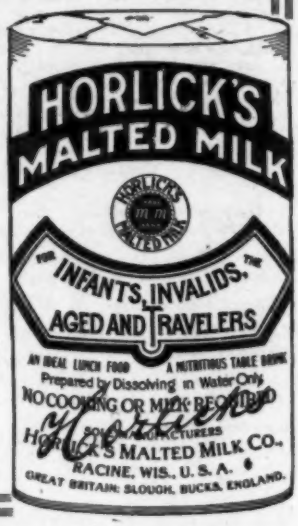


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# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXXIV CHICAGO, ILL., NOVEMBER, 1918 No. 5


## Original Articles

### THE DIAGNOSIS OF PULMONARY TUBERCULOSIS IN THE ARMY.*[1]


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The examining for tuberculosis of the tremendous army at present in the making presented at the outset a very serious problem. To begin with, the number of specialists trained for this rather technical work was small, and the volume of work was out of all proportion. Furthermore, the detection of the disease according to all our standards established in civilian practice called for a thorough, painstaking, and time consuming examination. Yet the experience of our Allied armies proved conclusively the desirability and even the necessity for such an examination. So that in the face of these difficulties the routine examination of recruit bodies was undertaken last summer, beginning with the various Officers' Training Schools. Here it was found that even though the men in these schools represented an unusually high standard physically, for sociological reasons—being in large part men of good circumstances, yet an appreciable amount of pulmonary tuberculosis was weeded out.

From the Officers' Training Schools the scope of the work was broadened to take in the National Guard. At this time it was plain that to handle this vastly greater problem many more examiners were needed. In consequence, the government established schools of instruction in tuberculosis for a limited number of surgeons. The purpose of these schools was not so much the instruction in the essentials of diagnosis of tuberculosis, for that knowledge was presupposed and demanded. The function of this course was rather to outline, lay down, and define the type and the clinical picture of the disease as it was to be encountered, detected, and rejected from the army. It is obvious that some standard had to be established, defining the type and extent of tuberculosis which was to be considered subject for rejection.

Again the experience of the British and French armies was of tremendous value, demonstrating clearly as it did, that not only were the rigors of trench warfare not necessarily harmful, to a healed tuberculosis, but that the subjects actually benefited and made excellent fighting material.

It was therefore the aim of the U. S. Government to examine routinely the National Guard and subsequently the National Army, and eradicate so far as possible those types of tuberculosis which must break down under the stress of war, and at the same time retain those in whom the disease was of less serious consequence. To accomplish this purpose, definite instructions were sent out to tuberculosis examiners defining clearly the type of disease to be rejected. For all practical purposes the class of tuberculosis to be dismissed from the army falls under two distinct heads: (A) the manifestly active tuberculosis, and (B) the healed or quiescent tuberculosis of considerable extent. It is obvious that the first mentioned, the manifestly active type, must be eliminated, no matter what its extent or degree, provided the clinical picture is clear and unmistakable. The second type, however, the healed or quiescent lesion, needs limitation and standardization. To reject a slight apical healed focus, no matter how typical the signs and definite the diagnosis, is to rob the army of untold numbers of valuable men. Since the diagnosis of the first big class, the manifestly active type, forms not only the bulk of our work but also the type most difficult to detect and the greatest field for error, we will consider it in detail.

If we remember that active pulmonary tuber-

*Read before the Tuberculosis Section, 86th Division, June 13, 1918.

1. Publication approved. Board of Publications. W. G. Gentry, Lt. Col., M. C. N. A., Secretary.

culosis is a clinical entity, a disease, an infectious disease running a febrile course, with a definite symptomatology and giving rise to a well-defined pathology, and this in turn resulting in very definite findings, we will have learned the big lesson—the necessity of correlation of history, symptomatology and physical findings.

While this discussion must necessarily be superficial we will consider all three factors briefly.

*History.* In civilian practice, the phthisiotherapist has learned the value of a carefully taken history as an aid to the diagnosis of early tuberculosis. The army surgeon is in a large measure denied this help. In the first place, his time is limited so that only the very essentials can be elicited. Furthermore, the malingering element or the constant suspicion of it destroys the surgeon's confidence and allows him but little assurance on which to base his judgment. There is danger, too, because of this unconscious mental attitude on the part of the examiner to minimize or entirely disregard an apparently fictitious history, which is a mistake, of course, and should be avoided. The ideal tuberculosis man will elicit in cases which present a possible early tuberculosis a careful history, and with an open mind correlate it with the rest of the clinical picture. The volume of work and paucity of time will restrict the history to the most essential questions.

We are first of all interested to know whether the patient has ever had a frank open pulmonary tuberculosis; if so, how long since; and if possible, some idea as to its extent, that is, whether he was bed-ridden, a sanitarium patient, positive sputum, etc. The history of a hemorrhage and its size is important. In inquiring about a previous hemorrhage, we have all come to appreciate the futility of the question, "Have you ever spit up any blood?" If he is of draft age he undoubtedly has, and will tell you so, although without further questioning he will not explain that the expectorated blood came from his teeth, naso-pharynx, or a host of other inconsequential sources.

In my mind a safe question is, "Have you ever coughed up a mouthful or more of bright red blood?" A positive answer will then give us some gauge or standard to work from, and the *red* blood eliminates the so-called chunks of old stagnant blood and mucus often hacked from the naso-pharynx. In a case presenting a suspicious picture a more thorough and augmented history will be justified and may include the following: Previous pneumonia or pneumonias, a positive answer pointing towards at least a weakness, and in the minds of many tuberculosis men a predilection towards the disease, frequent and protracted bronchitis having the same significance, plus the possibility of their having been a tuberculosis in the guise of a bronchitis. The significance of empyema and effusion pleuralis primatica is of course apparent to everybody and deserves due consideration. In the matter of family history, the ptisotherapist has changed his course and views materially in the past decade. He no longer believes in the heredity of the disease nor do many of us place much importance on a direct family predilection and predisposition.

A history of open active pulmonary tuberculosis in a family interests only because of the close contact it forces upon the uninfected members of the family, and the consequential danger of direct contact infection. To resume breifly, while history of disease loses a great part of its importance in the army, due to its forced brevity and frequent unauthenticity, it is essential in the early diagnosis of pulmonary tuberculosis to complete the clinical picture. Before passing from this phase of the subject, it might be as well to remark that no matter how positive the history of past or present trouble, in the absence of definite and well defined physical signs, or the absence of a clinical picture, we army tuberculosis men are not privileged to reject the applicant.

Symptomatology, or subjective signs, is so closely allied with history, that we might say a few words in passing. Here again in civilian practice we often acquire considerable aid and moral courage towards the diagnosis of an early tuberculosis from symptomatology. In our routine army examination, we are largely denied the privilege for the same reasons which governed history taking—scarcity of time and unauthenticity. And the same thing may be repeated here—the examiner should retain an open unbiased mind, neither too credulous nor yet entirely disregarding.

Complaints of dyspnea, loss of weight, emaciation, fever, can all be fairly easily verified. But the many more elusive symptoms which must be accepted on faith, such as anorexia, night

sweats, nervousness, insomnia, pectoral pain, hyperesthesias, night cough, etc., and infinitum, must be handled and classified judiciously. After all, the ultimate diagnosis of pulmonary tuberculosis which calls for rejection or acceptance hinges on—not the history, nor the symptomatology, but on the exposition of real pathology through the medium of physical findings. Because of the great personal element naturally coming into play in placing the value of such findings and thereby determining the presence, absence, or extent of trouble, the Surgeon General through Colonel Bushnel has set down a definite standard, in a large measure controlling the diagnosis the country over. We, the tuberculosis examiners, are told through our circulars of instruction, first—what types of tuberculosis must leave the army and, more important, what physical findings shall constitute and determine such types. In considering this, the most important phase of the subject as it concerns us in our diagnosis, we can conveniently divide the physical findings into two definite groups, (A) those findings which accompany or constitute an active pulmonary tuberculosis, and (B) those which make up the second great class of cases subject to rejection—the "healed lesion of considerable extent." In considering first the physical findings of the first big class of cases, active pulmonary tuberculosis, it would be well to go into the pathology of the condition, but circumstances prevent in a paper of this nature.

The physical findings of active pulmonary tuberculosis can perhaps be expressed fairly well in the one word *Moisture*. The definition of the condition is in this case much more simple than the explanation. By moisture as detected by our physical senses, we mean the hearing on ascultation of adventitious vesicular sounds, crepitation, caused by the passage of air through an only partially expanded air vesicle, occluded or obstructed by secretions.

This is a very homely explanation, but it is difficult to describe accurately the moist râle—the criterion or one of the criteria on which our diagnosis is based. While it sounds orthodoxical to say that to understand the moist râle fully and clearly, it must be heard and heard repeatedly—it is unfortunately true. The moist râle then, is and diagnosis of an early—from an army standpoint—active pulmonary tuberculosis. However, a moist râle in itself without further exemplification is not sufficient. Perhaps the citation of its most typical occurrence will give us a better standard for comparison, and present a clearer picture. In the case of an apical lesion, the presence of a shower of fine moist râles beginning early in inspiration and rising in crescendo in deep inhalation, augmented or at least not dispersed by cough, forms the typical unmistakable finding, synonymous in our minds with open active pulmonary tuberculosis. If in addition the picture presents altered breath sounds in the shape of a prolonged high, expiratory note, or a typical blowing tubular breathing, plus dullness and retraction, and other signs of an old fibrotic involvement, our diagnosis of a reactivation of an old lesion is indisputable.

From this ideal, however, we are often forced to decide on grounds much less secure, so that we finally come back to the one set, required standard or condition-moisture, the presence of constant moist râles augmented or not dispersed by cough. In the case of an apical lesion, however, the moisture must have one more element before we are justified in considering it subject for rejection—extent. Moisture in itself is such a flexible indefinite affair that to have it unqualified and open to the big personal equation factor would surely result disastrously—result in the climination in many cases of perfectly fit subjects from the army, and vice versa, the retention of recruits unfit for service. Consequently our instructions state, "moisture in an apex which extends below the clavicle shall be considered subject for rejection."

If time permitted, this phase—the diagnosis of early active pulmonary tuberculosis from the physical signs—would surely prove a most attractive theme. The second large group of cases which call for disposition by acceptance or rejection, is the healed pulmonary tuberculosis. France in the early days of the big war learned a sad lesson. At a time when troops and man power were more precious perhaps than even at the present crisis, there were weeded out of her army thousands of men, discharged with the diagnosis of healed or quiescent tuberculosis. Further examination, and later experience, proved that untold numbers of them, from a military standpoint, our foremost physical sign in the determination were healthy men, fully able to stand the rigors of war, and if anything benefited personally by their routine outdoor life. Profiting from this

experience, Col. Bushnell laid down very definite rulings governing the disposition of cases of healed pulmonary tuberculosis, and as a result literally, thousands of young men will serve their country—able bodied men, excellent men, fit fighting material, in spite of their harboring a healed lesion, the remnants of a one time mildly active pulmonary tuberculosis. In the disposition of cases of healed tuberculosis, the proper correlation of history, symptomatology and physical findings is even more essential than the diagnosis of the other large group, the openly active pulmonary tuberculosis. For example, as stated previously, the persistent evidence of moisture of considerable extent in an apex even in the absence of a history renders the subject undesirable for service. In the healed subject, however, a complete correlation is often called for to determine the disposition.

A man of physique above the normal, with good expansion and development, with an absolute negative history and symptomatology, and in addition a high morale—by which I mean a keen desire for service—would, in my mind, and, I am sure, in the judgment of many other tuberculosis men, have to present physical evidences of very considerable extent to cause his elimination from the army. The small inconsequential healed lesion, as evidenced by localized fremitus, increase muscular and integument atrophy, dullness or flatness on percussion, tubular breathing, and all the earmarks of consolidation should not and is not sufficient evidence for rejection from the army.

In conclusion I wish to say that the past twelve months in the tuberculosis section of the army has convinced me that the greater error and danger by far lies in the too promiscuous and absolute unfair and unwarranted dismissal from the army of men with lesions healed and insignificant—men who would render their country as faithful a service as their more healthy neighbor, and at the same time profit physically themselves.

## FURTHER OBJECTIONS TO COMPULSORY HEALTH INSURANCE.*†

EDWARD H. OCHSNER, B. S., M. D.,
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So far as I know, the first universal Compulsory Health Insurance Legislation that was enacted by any country went into effect in Germany thirty-five years ago and was the product of the fertile brain of Bismarck. He realized that something had to be done in order to stem the growing tide of socialism and it occurred to him that, by instituting compulsory health insurance and old age pensions, he could appease the proletariat and make them think that they were having a share in the government and that then they would hesitate to tear down a government in which they had a financial interest. That Bismarck was right, recent events have clearly demonstrated, for, if it had not been for old age pensions and other forms of social insurance, it is very doubtful whether the German socialists could have been driven into this war. Bismarck was a consistent, persistent and insistent monarchist, believing firmly that the monarchial form of government was the best form of government and was willing to go to any length to maintain the system which he considered best — and yet, the very system which ultimately brought about his own downfall.

In America, the movement for compulsory health insurance has an entirely different origin. A prominent eastern professor of political economy, some years ago, became the unfortunate victim of pulmonary tuberculosis. He soon discovered that the health of an individual was an important factor in his economic welfare, and that, while a study of such subjects as "Supply and Demand," "Wages and Capital," "Free Trade and Tariff," "The Distribution of Wealth," etc., is intensely interesting to the student and teacher of political economy and of benefit to the general public and essential to rational legislation, it is not nearly as important to the individual as is his own personal ability to work and earn a living. Like so many students of abstract subjects, he soon reached the conclusion that the evils resulting from ill health could be corrected by legisla-

*Address delivered at the Seventy-Second Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Wis., Oct. 4, 1918.

†On Dec. 21, 1916, the West Side Branch of the Chicago Medical Society presented a program on "Social Insurance Legislation." Nine speakers participated in the discussion. Five were definitely in favor of compulsory health insurance, three expressed the opinion that it was bound to come and the best thing to do for the medical profession was to get the best terms they could. Of the nine speakers, the author of the above was the only one who opposed compulsory health insurance, and expressed his views more fully on the subject in a paper read before the North Side Branch of the Chicago Medical Society on Jan. 12, 1917, under the title "Some Objections to Health Insurance Legislation," published in the February, 1917, issue of THE ILLINOIS MEDICAL JOURNAL and simultaneously in the *Insurance Age*. This hastily written article had the desired effect. The medical profession of Illinois began to study the matter and when thinking men with practical experience begin seriously to investigate this subject and check it up with their own practical experience they usually come to the conclusion that C. H. I. would be a serious mistake. This is illustrated by the actions taken by the Council of the Chicago Medical Society and the House of Delegates of the Illinois State Medical Society when they both went on record unanimously condemning C. H. I.

tion. This gentleman was the chief mover in organizing the American Association for Labor Legislation, a group of estimable theorists, who conceived the idea of drafting a bill, and, if possible, securing its enactment into law in every state in the Union. The purpose of the proposed law was to compel every employe, whose earnings were less than one hundred dollars per month, to be insured against sickness. The bill, which was finally drafted and which by them was called the "Model Bill," had twelve important features:

1. Cash benefits, two-thirds of wages for twenty-six weeks only.
2. Free medical and surgical service.
3. Free nursing attendance.
4. Free medical and surgical supplies.
5. Free hospital service.
6. Cash benefit to dependents.
7. Funeral benefits.
8. Maternity benefits.
9. Free dental work.
10. Free medical treatment for dependents.
11. That it should be compulsory for all employees earning less than one hundred dollars per month.
12. That forty per cent. of the cost of this insurance be borne by the employer, forty per cent. by the employee and twenty per cent. by the state.

It is evident to anyone familiar with the practice of medicine that such a program would entail a fearful expense because we all know that when such things as medical service and medical supplies are rendered without expense to the recipient, great extravagance results. Anyone who is familiar with contract practice knows that the patients who can get free service are constantly running to the doctor, and if surgical supplies and medicine were free, they would be unnecessarily wasted. This is not theory, but the result of large experience. Every physician who has ever been engaged in contract practice with whom I have spoken, and I have interviewed many on this subject, has told me that where medical services are rendered free or at so much per annum, the patients are constantly running to the physician for medical advice and medicine; however, the most striking illustration in support of this statement can be found in a recent experience of the University of Wisconsin, which some years ago went into a modified form of contract practice. Each student, by paying a small fee each year, is given medical care by the clinical staff of the university. At a hearing before the legislature of that state, at which I had occasion to appear, the dean of the medical school made the statement that, during the fall semester of 1915 the clinical staff made 17,000 calls and examinations on a student body of about 4,000. In other words, every student in that institution received medical attention on an average of 4¼ times during a period of sixteen weeks, or at the rate of 13¾ times a year —or for a family of four, which is a little below the Chicago average, at the rate of 55 times a year. When in addition we consider that this service was rendered to university students in the prime of life and health, it becomes evident that a clientele consisting of all ages would require a great deal more attention, for little babies, the aged, women during the child-bearing period and men in hazardous occupations certainly would require more medical attention than do university students; but, even if we figure only fifty calls a year at fifty cents a call, it would amount to twenty-five dollars per annum for medical services alone. If one of the ten benefits promised by the "Model Bill" amounts to at least $25.00 per annum, per insured, it is evident that the ten will come very high. I doubt whether all of them could be rendered at $100 per annum. However, for the sake of argument and in order to be more than fair, let us grant that $60.00 would cover the expense per annum, per insured.

Professor Deibeler of Northwestern University, in a paper read before a subcommittee of the Illinois Committee on Social Legislation, estimated that in the State of Illinois, excluding farm laborers, there were employed at that time, eighteen months ago, 1,053,000 persons in gainful occupations in the industries of the state that received less than one hundred dollars per month. From this we have a right to conclude that it would cost at least sixty million dollars to operate a scheme of which, according to the Model Bill, twenty-four million would be paid into the treasury by the employers, twenty-four million by the employes and twelve million to be derived by taxation.

Personally, I do not think it would be fair to tax small tradesmen, shopkeepers or farmers to support such a system unless they are included in it. The small tradesman and shopkeeper is already finding it very difficult to make a decent living and practically impossible to acquire even

a moderate competence for old age, because of the increasing competition of mail order houses and large corporations. The average farmer and farmer's wife, particularly the renter, are the hardest worked citizens in the state. Practically all of these classes often go without medical aid because they cannot afford it and it certainly would not seem fair to take their hard earned income to provide medical services for others, when they themselves cannot afford it. So far as I know, all those in favor of compulsory health insurance have admitted that the system could not be maintained without state support. If this is true, there surely is here an insurmountable objection to the enactment of such legislation, for no law should be enacted which imposes an injustice on a very considerable percentage of citizens engaged in legitimate occupations.

A far-reaching innovation in our government, such as compulsory health insurance would be, must be viewed from many angles. We must consider its effect upon the general public, also its effect upon the individuals who come most directly under its influence, namely, the insured, the employer and the medical profession. The influence upon the former is, I am sure, bad, because it encourages him to run to the physician for every little ache and pain, as forcibly illustrated in the University of Wisconsin experience and the experience of practically every physician who has been engaged in contract practice. It unquestionably leads to the excessive consumption of drugs and the attempt, on the part of the insured, to substitute drugs for personal hygiene and right living. He who gets free medical advice and is paid for loss of time from sickness, is very much more likely to disregard the laws of health and to resent advice as to improvement in his mode of living than is he who has to pay for his medical advice out of his own pocket. I think practically every physician with a large experience will bear me out in this statement. This statement is further borne out by the experience with German health insurance where the loss of time from sickness has actually increased fifty per cent. since the health insurance law went into effect. In order to emphasize my point more forcibly, let me adduce some evidence from my own personal experience.

When I was a youngster, I worked two seasons as a lumberjack. The camp in which I lived contained between thirty-two and forty men. Of this number one only did not use intoxicating liquor, two only did not use tobacco and only about half did not use liquor to excess or have vicious habits. About half of the men spent their hard-earned money either at the saloons in the nearby town or went regularly to the Island, or did both. Those of you who are familiar with the Islands in the Mississippi river need no explanation as to what they went there for. I should like to know how health insurance, insuring these men for loss of time and providing for them free medical care, would have prevented them from doing the very things which were the cause of much of their sickness. To the contrary, I believe that a larger percent would have gone to the Islands if they had felt that they would be protected against loss of time and would have free medical care if they became sick, and health insurance would actually have increased the percentage of immorality. Various motives control men's morals. Some, and not an inconsiderable percent, are moral because they are afraid to be immoral, because they fear that immorality will bring sickness and loss of income. Many a time I have been ridiculed for not going along with them. I have been taunted to come along and have a good time. It would certainly have been adding injury to insult if, in addition to these taunts, I would have been compelled by law to pay the men who did go for loss of time and for their medical care. I should like to ask some one to explain to me on what theory of justice those of us who lived clean moral lives should have been taxed to pay for loss of their time and for their doctor bills for illness very largely brought on by themselves. Take, for instance, a clean-living man and one of the other kind who on the average together will lose sixteen days a year by sickness, we are told. I firmly believe that the clean-living man will, as a rule, lose much less time than will the man with loose morals and bad personal habits. You may say that this illustration refers to an individual case. In answer I would say that the same conditions pertain in every lumber camp, mining camp and railroad camp and on many farms and in many factories. Possibly not at the rate of fifty-fifty, but certainly at the rate of twenty-five-seventy-five, and if it is wrong to make the clean-living fifty pay for the wrong doings of the vicious-living fifty, it is equally wrong for the clean-living seventy-five per cent. to be penalized to support and maintain and provide medical care for the

immoral twenty-five per cent. It is high time that in our legislative enactments we think more and more of encouraging the hard-working, honest citizen, and make it harder for the shiftless to find easy money.

One of the principal difficulties with our economic system today is that too large a percent of our population are non-producers, drones, yes, even human parasites. This scheme of health insurance would have a tendency to increase this undesirable class instead of decreasing it. The hard-working general practitioners would do all of the hard work for relatively very little pay. The political favorites would get the big salaries and hold down the easy jobs. The hard-working, self-respecting workman, who is too honest to pretend sickness unless he is really sick and too proud to take benefits unless he is absolutely sure that he is entitled to them, would pay tribute to the lazy and unscrupulous who are constantly trying to get out of work. This observation naturally brings us to the next objection to compulsory health insurance.

Free medical service and compensation for loss of time due to sickness, such as compulsory health insurance would provide, also has a strong tendency to increase malingering and to gratify the patients' desire for easy money. Some of these patients find it much more comfortable to feign sickness, to get free medical treatment, and two-thirds compensation, than to work. This statement is borne out by the experience of those engaged in contract practice, commercial insurance practice and mutual sick benefit practice, and still more forcibly emphasized by the experience of compulsory health insurance in Germany. Twenty-one years ago I spent six months as externe at the Neue Allgemeine Krankenhause, in Hamburg, doing some work under the prominent surgeon, Professor Kuemmel. One morning, in making rounds, Professor Kuemmel told me personally that since the introduction of health insurance laws in Germany, malingering had increased tremendously among the patients. He said that a very considerable portion of his time was practically wasted in ferreting out malingerers. If this be true in a surgical service, how much more common it must be in a medical service where malingering is so much harder to detect. The fact is, in Germany, a voluminous literature has sprung up, telling in detail how malingerers of all kinds can be detected—all of which goes to show that health insurance has a tendency to compel the honest, industrious worker to pay tribute to the lazy, shiftless and unscrupulous.

Let us now briefly consider the effect such legislation is likely to have upon the medical profession, for next to stability of government, honesty of administration and general intelligence of the people, the welfare of the nation depends more upon the quality of the medical service which is rendered than upon any one other thing. The longevity, health, efficiency and happiness of a people depends more upon the integrity, ability and industry of its medical profession than upon anything else. Anything that has a tendency to lower the standard of medical service does serious injury to the whole nation. If you are going to make the average medical man a mere drudge, robbing him of his independence, then overwork and underpay him, you are going to have a less and less efficient class of medical men, irrespective of the medical requirements, simply because the brighter men will refuse to go into a profession in which they are thus hampered. That this has actually happened in Germany, where compulsory health insurance has been in force longest, is very evident to anyone familiar with conditions there. It is a noteworthy fact that, in the last twenty years, only one thing of prime importance has come out of Germany and that purely a laboratory matter, namely, Salvarsan: Twenty-two years ago Lorens published his great work on the bloodless operation for congenital dislocation of the hip; twenty-three years ago Roentgen discovered the x-ray; about twenty-six years ago Biering and Roux brought out the diphtheria serum. Since then nothing of clinical importance, except Salvarsan, has come out of Germany. The reason is that the practice of medicine has been made so unremunerative and unattractive that a smaller and smaller number of really brilliant men enter the profession. Who is there now in Germany to take the place of the grand old clinical masters such as Billroth, Volkman, Langerbeck, Hebra, Kaposi, Schede, Koenig, Bergman, Van Graffe, Von Miquiliz, Nothnagel, Trendellenburg, Ohlshausen, Von Leyden, Senator, Israel and Neusser. The number of younger men of first magnitude today can be counted on the fingers of one hand. There is a reason for all this, and the reason can largely be found in compulsory health insurance laws, which have crushed independence and enthusiasm out of the medical

profession. These facts I know to be true for I studied two years in Germany and Austria, talked intimately with many of their medical men, among whom were some of the most prominent ones, and twenty-two years ago I, myself, acted as an assistant for a period of six weeks to a health insurance physician in Leipsig. I had a splendid opportunity to observe the practical workings of the system. My conclusion at that time was that either health insurance resulted in high cost to the insured, or underpay to the medical man, or inefficient service, or any two or three of these. I have had no reason to change my conclusion formed at that time. I worked in an ambulatory clinic for ear, nose and throat. The man I worked with was a splendid man, very conscientious and rendered good service to the patients, but he told me that in spite of the fact that he had a small outside private practice of which he took care in the afternoon, and in spite of the fact that he worked hard from four to five hours in the health insurance clinic every morning, he was scarcely able to make a living. The physician in charge was a man of splendid type with excellent education and an assistant in the University Medical School. In spite of these remarkable qualifications, with industry and zeal, at the age of forty, he was scarcely able to make a decent living for himself and wife and little child. If such conditions are established in this country, only men of means will study medicine, and then medical progress will surely cease.

In this country, at least, we suffer from still another serious difficulty and that is notoriously inefficient, more or less corrupt administration of government. It is a very serious question whether we have progressed far enough in civilization, far enough in the administration of our government to make it safe to venture into this new field. I am afraid it would be a dangerous weapon in the hands of our spoils politicians through the state machinery which would have to be established to run health insurance. It would give to them almost complete control of a large percent of the medical profession. The question naturally arises, "Who would have to administer health insurance laws, and have we now, or are we likely to secure suitable machinery for its administration?" Shall it be the state, the city or the county, and have any or all of these political subdivisions so conducted themselves, say, during the past twenty-five years, as to make us willing to entrust this additional power to them? I have been a resident and citizen of Chicago for twenty-seven years and have watched things rather closely, politically. I am free to express the opinion that inefficiency and mismanagement have been the rule rather than the exception. The best one can say of the management of state institutions is that it is rarely, if ever, excellent, sometimes good, more often bad and still more often mediocre. Our county and city administration is usually worse. It is reported in the daily press that during the year 1917 eleven real estate experts received $130,000 of Chicago taxpayer's money for part-time service appraising real estate. I am sure every physician would like a nice, fat job at $10,000 to $15,000 per year, spending three or four hours a day giving opinions and advice on medical subjects of various kinds. But there are a number of serious difficulties in the way: first, there would not be enough money to go around for all of us; second, not those best qualified, but those who have the most political pull would be almost sure to secure the most desirable positions and the rest of us would have to kowtow to these political appointees or go hungry. What kind of medical service do you think the citizens of Chicago would get if some favorite of Hinky Dink or the Bath House were to supervise their medical work and tell the physicians what they might and what they might not do? Until we have devised means to eliminate spoils politics, favoritism, pull, nepotism and graft from our political life, compulsory health insurance would be one of the most dangerous ventures which we could undertake.

When Rupert Blue coined the phrase, "The next great step is health insurance," he came about as near expressing the truth as catch phrases and epigrams usually do. If, instead, he had said, "The next step backward may be compulsory health insurance," he would have come very much nearer the truth. Or again the slogan, "The Health of the Individual Is a Community Problem," is only a half truth and hence more dangerous than a falsehood, because much more difficult to detect. Instead, it should be, "The Health of the Community Is a Community Problem, but the healing of the sick is a very personal matter." Most of the confusion which exists on this subject even in the minds of medical men today, is there because we have not kept clearly in mind the great fundamental difference

between preventive medicine on the one side and the care of the sick on the other. Preventive medicine should, in the main, be a government function because organized society, as expressed in government alone, can handle this phase of the medical problem. Preventive medicine is peculiarly suited to government control, while the care of the sick is entirely unsuited to it. The treatment of a sick person is a very personal matter and does not land itself well to wholesale impersonal methods. To show how little some men employed by the government realize this distinction, permit me to give a concrete illustration by quoting a recent remark of a Chicago health inspector. This morning, April 13, 1918, a health inspector called on a desperately sick bronchopneumonia patient. In the presence of the sick man he pulled out a long list of names, patients whom he was to visit during the day, with the following remark: "Here are one hundred fifty names and addresses that I am supposed to visit today. Six were dead already when I called this morning. Sixty per cent. die." This was surely splendid encouragement and an excellent tonic for a man who was just on the brink. April 14. This morning the patient was dead. What part of the result was due to the health inspector's remark no one can tell. A private physician who would make such a senseless, brutal remark in the presence of his patient could not do much harm, because he would have few, if any, patients. While such an individual can do untold mischief when he once gets into the public service, because if he will obey the department rules, flatter his superiors, and regularly come across with campaign contributions, it it almost impossible to separate him from his job.

He who thinks that all there is to the practice of medicine and surgery is a knowledge of the action of drugs and a certain skill in the handling of surgical instruments is as far wrong as he who thinks that all that is worth while in life is money and what money will buy. The successful practice of medicine depends fully as much upon the personal human sympathy which exists between the physician and his patient as upon the scientific problems involved, and if you take away the former and commercialize and wholesaleize the practice of medicine, you will alienate from it a large proportion of the big, whole-souled, humane men who have made medicine what it is today.

Those who are so strongly in favor of health insurance legislation seem to be laboring under still another misapprehension. They seem to think that health insurance will either prevent poverty or cure the evils resulting from poverty. I feel, however, that it will do neither; that, in fact, health insurance would be only a palliative and like most palliatives, if persistently employed, will do more harm than good.

The present agitation for health insurance reminds me very forcibly of the medical experience with the hypodermic use of morphin. When the hypodermic use of morphin was first introduced, many laymen and even some physicians were very enthusiastic about it and felt that now a remedy for the banishment of all pain from the world had been discovered. Gallstones, for instance, had lost their terror temporarily because a simple injection would almost instantly still the pain. It took even physicians some time to realize that morphin was only a palliative, and if persisted in the patient was eventually actually made worse instead of better. In order to cure the patient, much more heroic means must be resorted to—the gallstones must actually be removed with the knife.

While pain and poverty will never be banished from the world, pain has already been greatly alleviated, because medicine has largely substituted prevention and cure for palliation. Are we going to make the same mistake in attempting to relieve poverty that we made in attempting to relieve pain? I hope not. I hope instead we will strike at the root of the evil, prevent most of it, cure a large percent of the remainder and palliate only that which cannot be prevented or cured.

The American laboring man does not want charity nor does he want his life regulated for him from the cradle to the grave. He wants an opportunity to work out his own salvation. He wants to be able to choose medical advice for himself and his children unhampered. Let us at least be consistent. If we believe in autocracy, let us have it. If we believe in socialism, let us have that, but, let us not attempt to graft a cross between autocracy and socialism upon our democratic institutions. I am a thorough believer in democracy and I believe that in a true democracy the individual is not only permitted, but encouraged to do that which he can do best, while the state undertakes to do that only which it can do best. Healing of the sick is a very personal matter and best accomplished by the individual. The state,

on the other hand, should devote its attention to public health and sanitation and general instruction in personal hygiene. In addition, it is the duty of the state to see to it that every medical man who possesses a license to practice is reasonably efficient and reasonably honest. Here the function of the state ends in a true democracy.

The burden of proof is clearly upon those who are in favor of Compulsory Health Insurance. To show that certain evils exist is not sufficient. They must be able to prove beyond a reasonable doubt that the remedy which they suggest will cure these evils and that it will not introduce new and even greater evils than those it is intended to remedy.

I agree that statistics, if carefully and conscientiously collected, do not necessarily lie and yet when it comes to the more subtle human relations, they rarely ever tell the whole truth. It is for this reason that I have brought out here so many of my own personal experiences, experiences which all speak against compulsory health insurance. This has made it necessary for me to leave out many of the arguments usually given against compulsory health insurance, such as the fact that it would not solve the problem of the pauper or the occasional worker, for no one, not even the most ardent supporters of compulsory health insurance has ever claimed that any clause could be incorporated which would solve this difficult problem. In fact, they are forced to admit that the burden of their care, which has heretofore been voluntarily borne by the physicians, would have to be assumed by the state at an expense which would run into the hundreds of thousands of dollars.

In conclusion, I firmly believe that to establish compulsory health insurance would be one of the most serious mistakes that any commonwealth could possibly make, because it would be bound to lower the quality of medical services rendered to its citizens, it would increase loss of working time from sickness, it would throw an enormous financial burden upon the taxpayer, the employer and the employe, it would greatly reduce the incentive to thrift and industry and put a premium on deception, sloth and shiftlessness, and compel the industrious, hard-working, clean-living workman to pay tribute to the untruthful, lazy, shiftless and immoral, and finally, it would have a tendency to take from independence and self-reliance its proper pride and from dependency its salutary shame.

2155 Cleveland Ave.

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## THE ARMY MEDICAL CORPS*

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*Mr. President, Members of the Chicago Medical Society:* Times have changed since I had the privilege of addressing you on this same subject six months ago. Then, the cursed Kaiser and his fiendish hordes of barbarians were seriously endangering the civilization and freedom of the entire world; today these professional cut-throats, bandits and ravishers are squealing for mercy and trembling at the approach of unrelenting justice, and the punishment which will be meted out to them for the unspeakable atrocities they have committed—the greatest criminals of *all* Ages!

Six months ago, we were sorely in need of more medical officers and appealed to you for help. Since then you have nobly responded and proved once more that there is no greater altruistic, noble and patriotic body of men than is found in the medical profession of the United States. In the Chicago office alone, for instance, aside from a large number of Reconstruction Aides, candidates for commission in the Ordnance Dept., etc., we have, in the last Quarter alone, from July 1 to Oct. 1, 1918, examined and passed physically and professionally 746 applicants for the Medical Corps of the Army. Chicago has furnished the greater percentage of these. No other section of the country has done as well, for which I both congratulate and thank you.

In this connection, I desire to express my sincere thanks to the officers of this society and especially to your secretary, Dr. McKechnie, in affording us great assistance in putting at our disposal much valuable space in the society's *Bulletin.* Also to the editors of the *Journal of the American Medical Association,* and The Illinois Medical Journal for their staunch and patriotic support of the needs of the Medical Department of the Army, which now has a personnel of over 30,000 medical officers.

Are the needs of the service any less? *NO, not by any means.* General Noble of the Surgeon

* Address read before the Chicago Medical Society, Oct. 9, 1918.

General's office, who has been in Chicago the past two weeks on business of the office in securing buildings suitable for the returning convalescent and disabled soldiers, wishes me to tell you that the needs for more medical officers are unlimited. The General, like all of us, believes that the enemy only wants a truce in order to reform his shattered divisions for a new offensive, and that the only plan is to go on recruiting for a large army of at least 5,000,000 men, with a corresponding number of army surgeons required, that is, 10 to each 1,000 soldiers.

It remains, therefore, the duty of every able-bodied physician to join the Army Medical Corps till peace is actually declared.

Every man from 21 to 45 ought to join. The necessary professional work at home can well be cared for by the older men, the teachers, the clinicians, and the large class of men who are physically unfit for army service. Conditions here do not even begin to compare with the scarcity of medical men in England, for example. In some cities in England, I am advised there is only *one* physician to 10,000 population. No one in this country is suffering from lack of medical attention.

Method of procedure to join the Medical Corps: (you may notice the Secretary of War has ordered the discontinuance of the word "Reserve"). All officers are appointed to the Medical Corps now, and not Med. Res. Corps. You will kindly fill out the regular application blank, have it sworn to, write an accompanying letter to the Surgeon General expressing your desire for a commission, on your own letter head, if possible, obtain at least two letters of recommendation preferably from physicians, or one from a physician and the other from a layman, and with your medical diploma and state license, or a letter from the secretary of the college stating the year that you graduated, and a copy of the license from the County Clerk, and you have completed the requirements. Present these papers any Monday, Wednesday or Friday morning at the Board rooms, 81 E. Madison St., at 10 o'clock, and pass the physical and professional examination. Tuesday and Thursday we examine applicants from the surrounding country towns. Women physicians, from 23 to 45 years of age, are accepted as contract surgeons with a salary of $140.00 per month. Their duties are the administration of anesthetics in the Base Hospitals.

*To return to the Medical Corps*: The physical examination is not quite as rigid as earlier in the war. We waive a good many points which formerly would prevent acceptance, and many men not entirely sound physically, are now recommended for limited service; that is, for service in Base Hospitals in this country only. Then after a period of from 4 to 6 weeks, the successful applicant receives a telegram from the Adjutant General of the Army advising him of his appointment, and at the same time directing him to proceed within ten to fifteen days from the receipt of the telegram, at Government expense to some training camp, where he remains until he has acquired the necessary military knowledge, usually a period of six to ten weeks. Then he is assigned to some Base Hospital over here and later re-required for overseas duty. Wherever possible an officer is assigned to that department in which he feels best qualified to serve. It is a remarkable fact, that of the several thousand physicians our Board has passed into the service, not one has uttered a single complaint. In the hundreds of letters I have received there is a unanimous expression of delight with army life, and many have voiced the wish that they might remain in the army permanently. On the other hand, a few officers who were let out of the service for one reason or another, have made life a burden to me, in their frantic endeavors to get back into it.

The compensation you no doubt are familiar with, but I will briefly repeat that no original appointments are made below the grade of first lieutenant, with salary of $2,000 a year; Captains, $2,400; Majors, $3,000, with an increase of 10 per cent for foreign service. If married, or having children or dependent parents, an extra allowance is made, so-called commutation for quarters, light and fuel, at from $40 to $60 per month according to rank.

The necessary equipment can now be obtained at cost at the Government stores, in this city at 39th Street and Winchester Avenue, where the officer should apply as soon as he receives his telegram of appointment, which gives him ample time to get ready.

He pays his own travelling expenses, and receives in turn 7 cents a mile for every mile traveled, or he can apply to the Quartermaster De-

partment at 230 E. Ohio Street, and secure his transportation.

Much valuable information is contained in an admirable little booklet published by the American Medical Association, called, "Information Regarding Medical Service in the United States Army," a copy of which I would advise you to get. They are pleased to send it upon application.

The question is often asked, how long do I have to remain in active service? That depends, of course, on the duration of the war, and the length of time it will take our soldiers to return from France. The medical officers stationed in cantonments and Base Hospitals in this country will be, of course, the first ones placed on inactive duty and returned home, the officers stationed in France will come in sections accompanying troops, the last of them perhaps a year after peace is declared. Those in the Reconstruction Hospitals here or abroad will be the very last ones to return to civil life.

In conclusion, allow me to give you a message to the Chicago Medical Society from Major General Noble on the eve of his departure to France to take charge of the Medical Department of our armies abroad:

He writes: "I appreciate greatly your invitation to attend a meeting of the Chicago Medical Society on Wednesday evening. There is nothing that would give me more pleasure, but I am under orders to return to Washington immediately, and am leaving tonight.

"I regret sincerely that I cannot have the pleasure of being present at the meeting and being able personally to congratulate the physicians of Illinois and especially of Cook County for the magnificent manner in which they responded to the needs of the service. On the basis of population, Chicago has done better than any other section of the United States, and I feel confident that the members of the Chicago Medical Society will continue to answer their country's call in the future as nobly as they have done in the past."

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## DIAGNOSTIC SIGNS OF TUBERCULOSIS OF THE BRONCHIAL GLANDS.

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Tuberculosis adenitis has several characteristics which are of interest. The local character of the disease is a prominent feature. This local character of the disease is, however, no longer looked upon as a localized expression of a diathesis, but as a distinct evidence of tuberculous infection. This local character of the disease is not accidental and calls one's attention to the common portals of entry—these portals bear a very definite relation to the bronchial gland infection.

The lymphatic system with its flow of lymph is very much more closely associated with tuberculous disease than is the arterial system. First, due to the direct connection with the portals of entry for the bacillus tuberculosis. Second, the lymphatic system as represented by its glands and lymphatic vessels, due to the abundance of adenoid tissue and the richness in lymphoid cells, seizes upon and renders innocuous entering tubercle bacilli: this is done at the cost to themselves of disease. The primary form of the disease in these glands is due to the fact that they act, in a measure, as a filter for the tubercle bacilli and those near the portal of entry do not allow the tubercle bacilli to reach the blood stream, or to even infect other groups of glands until they themselves have become diseased. In other words, the lymphatic system, as the defenders against invasion by the bacillus tuberculosis form more than one line of defense; the first line, or first group, situated closest to the portal of entry, try to hold the infection, and in so doing they do it at the cost of their own integrity. If the enemy penetrate this first line of defense the infection is interrupted in the next gland group and in this way tends to localize the infection, and it is upon this definite localization that we base our statement that the glandular disease is a distinct tuberculous infection.

Tuberculosis of the bronchial glands has its greatest importance in childhood as a primary disease and is rare after the age of puberty: with increasing age it becomes more rare, and in adults the glands are usually affected secondarily during the course of a chronic tuberculous disease.

The tuberculosis of children spreads by the lymphatic system; it begins in the lymphatic glands and upon the reaction of these glands depends chiefly its further development. In infancy the lymphatic system is the part which has relatively the greater power of resistance. In spite of this, it is not capable of withstanding the assaults of the tubercle bacilli. The tissue reaction is insufficient and the glands fail to arrest the bacilli: they spread through the lymphatic system, attack

other tissues and cause a rapid and often fatal ending. In older children the power of the lymphatic glands increases with the general resistance—the glands are better able to deal with the tubercle bacilli and to shut off infection from the rest of the body temporarily or permanently. About school age the resistance of the tissue still further slowly increases and about the time of puberty there develops a certain general power of resistance which enables them to withstand the tuberculous invasions: this limits the importance of the glands as the primary focus, and from this time on they no longer play the chief part.

It has been said that bronchial gland tuberculosis is usually present if there is tubercular disease in the body. This gives expression to the importance of these glands, and the need of making an early diagnosis of their infection.

There is no condition that so influences the development of the thorax as a tuberculous infection of the bronchial glands. This is brought about by their enlargement with the resulting pressure upon vital channels; in fact, the entire development of the child is markedly influenced by this tuberculous lymphadenitis. In well-marked cases the child may stop growing or be under-sized. We find these children with deformed chests, or under-developed. The so-called delicate and frail child is delicate and frail because of the tuberculous bronchial lymph nodes. We have in the hypertrophied pharyngeal tonsil a graphic illustration of the effect produced by obstruction, in the development of the child. Here we see the facial expression moulded, the contour of the bony structure changed, the mentality impaired.

The clinical picture of tuberculosis of the bronchial glands is by no means distinct and rarely is the entire symptom complex present and pointing to the diagnosis. The recognition of physical signs of disease of these glands is difficult, and often unsatisfactory, because of their situation deep within the chest. In the early stages there may be no physical signs, although the disease is active. In attempting to make a diagnosis, therefore, no line of investigation should be omitted and all possible information which might be of value obtained.

The history should be very carefully taken, and we must always keep in mind the insidious nature of the disease. The bacillus tuberculosis—the Hun of the bacteria—invades the unsuspecting host, with all the cunning of his archetype and he too selects innocent children as his prey. Inquiry is to be made as to the existence of tuberculous disease in the parents or other members of the family, in intimate associates or previous occupants of the home. This is of great importance for the infected home is the great menace to the child. Details are to be secured about previous diseases, their duration and severity: ascertain if the child tires easily, or if there has been a change in its disposition.

The cough in tuberculosis of the bronchial nodes in children resembles that of pertussis. We may have dyspnea due to pressure on the vagus, or direct pressure upon the trachea or bronchi.

Asthmatic attacks in children should always lead to suspicion of bronchial node tuberculosis. There may be difficulty in swallowing: the spinalgia described by Petruschky is present with active inflammation. The temperature in general is changeful, but we must not place too much reliance on fever in children; the pulse may be rapid or irregular, due to pressure upon the vagus.

The appetite is lost or capricious, pallor of the face and mucous membrane is slow in its onset. These patients often show a marked aversion to fats; more or less digestive disturbances are frequent.

Inspection. These children are often tall for their age, or at least appear to be on account of the disproportion between the width and length of their chests: their long slender necks enhance the effect. The fingers are long and thin, the skin is apt to be dry and scale and relax—the hair is often soft, thick and luxurious, eyebrows well marked and lashes long and silky. The face is oval in outline, features delicate and pinched, the expression wistful, the eyes are bright and appealing and the sclera bluish-white. The pupils are often dilated, indicating pressure by the enlarged glands upon the sympathetic, and when of unequal size, the process is more active on the side, showing the greater dilatation.

Their posture in standing is relaxed and stooping, the scapulæ situated low down and projecting or prominent. The acromial end of the clavicle is sunken and the shoulders converge anteriorly. In older children there may be seen the so-called hilus dimple. A tracery of enlarged venules weaving across the chest is a common sign

of glandular pressure; this pressure may be so extensive as to cause cyanosis of the face or puffiness of the lips or eyelids.

On palpation we may find an increase in the vocal fremitus between the spine and the scapula, with no apical increase. There may also be tenderness on pressure, especially over the neighboring vertebra.

Dullness on percussion between the spine and the scapula which is separated by a zone of resonance from the usual apical dullness is a very significant sign. If there is increased parasternal dullness it is most marked in the second intercostal space. There is also noted a marked increase of the resistance under percussion over the usual area of hilus dullness.

To percuss the chest posteriorly, the patient should be seated upon a tool or table with the arms crossed over the chest to the opposite shoulder. The head is flexed forward to secure relaxation of the spinal muscles. I emphasize the fact that the percussion stroke must be light: a tapping stroke will elic dullness which is imperceptible when greater force is used, by reason of the inclusion of resonant lung tissue within the percussion sphere.

With enlarged bronchial glands the impaired resonance may extend outwards two or three inches from the mid-line and may extend down to the sixth or eighth dorsal spine.

In adults, a dull note is normally present over the first four dorsal spines, and a distinct dulness below the fourth dorsal is abnormal and may indicate enlarged bronchial glands. It is much less common to obtain dulness from enlarged bronchial nodes anteriorly.

Auscultation is a valuable and a more trustworthy method of examination. As the bronchial glands become enlarged the vesicular quality may occasionally be replaced by bronchial breathing. It is heard more clearly posteriorly in the interscapular space and more often on the right. It is less high pitched and more metallic than the tubular breathing of consolidation, or cavity formation. Anteriorly, increased vocal resonance is normal over the manubrium with swollen glands anterior to the trachea and bronchi; whispered bronchophony is marked. Fine notes are sometimes heard external to the hilus in the region of the nipple, usually at the end of inspiration. They are not removed by cough or deep breathing.

Some years ago d'Espine called attention to the fact that in children whispered bronchophony normally ceased at the level of the seventh cervical vertebra, but that in enlargment of the bronchial glands it extended downward to the upper thoracic spines. This observation has since been known as d'Espine's sign, and has proven to be a reliable factor in diagnosing the disease. It is best elicited when the arms are folded well across the chest, the head sharply flexed and the patient sitting erect. The examiner auscultates posteriorly over the course of the trachea and the patient is asked to whisper "three-thirty-three" or "one-two-three." Young children can be more readily induced to whisper "tree" or other familiar words. In positive cases the final "e" of the last word persists momentarily after the phonation ceases. This post phonal quality is the significant feature. The whispered voice gives more satisfactory results than the full voice. The respiratory murmur is the least reliable, but may give fair results in experienced hands in the case of infants who do not talk or cry. Loud transmission of the vocal resonance as heard over the normal lung does not constitute d'Espine's sign. The transmitted sound must have tracheal timbre. D'Espine's observations were made chiefly on infants and children. In older children and adults the bifurcation of the trachea is at a lower level than in the infant, and for this reason the bronchophony is of questionable significance unless heard at a lower level.

X-Ray. The use of the x-ray in the diagnosis of tuberculosis of the bronchial glands is of extreme value. Enlarged and pathological glands can often be demonstrated by this means when the symptoms are general and vague, and the local symptoms and physical signs are altogether wanting. The x-ray may show gland involvment when they have not reached sufficient size, because of their location, to cause cough, dyspnea or other pressure symptoms, and when they are too small to cause a d'Espine's sign or appreciable dullness.

In the examination of the chest by means of the x-ray we may use the fluoroscope, but the stereoscopic plates are always preferable since they show the shadows in perspective and enable the observer to appreciate the third dimension, and the depth of the lesion from the surface of the chest.

In the x-ray plate we have a permanent graphic record of the varying density of the tissue through which the rays have passed and they are

of value for further study or comparison. Normal bronchial glands do not cast a shadow. In early involvment the individual glands may not be seen, the only thing noted being an increase in the width of the lung root. When the glands become caseous they stand out more or less as shadow spots: calcified glands are sharply defined and easily recognized. When a large mass of nodes is present a distinct lobulated mass is to be seen. Shadows can be diagnosed as glands only when they are more or less homogenous and have well defined margins. The plate should be taken in an oblique position, the rays passing from behind on one side to the front on the other. In this way the spinal column and heart and great vessels will be seen separated by clear space, unless diseased glands are present in the mediastinum.

As has well been said, tuberculin is the most exact and finest reagent for proving the existence of a tuberculous deposit in the living organism. If there is to be any preferred field for the application of this significant assertion, I should say that it lay in the use of tuberculin as a diagnostic agent in tuberculosis of the bronchial glands. The cutaneous test of von Pirquet is one of the most extensively used, and is of special value in children, being easily performed and harmless. This test depends on the hypersensitiveness of the skin of the tuberculous person to the small amount of tuberculin taken up by the lymphatics. The test may be considered as specific in demonstrating hypersensitiveness due to the presence of a tuberculous focus. It does not, however, offer an accurate indication as to the state of activity of this focus, unless other factors are considered. The younger the child, the greater its value. In older children the subcutaneous test is of more value and should be generally used. The focal reaction, following a subcutaneous test, is of especial value in these cases in that the hyperemia caused at the focus of infection will increase the pressure symptoms, as manifest in the cough, dyspnea, pain, difficulty in swallowing, increased heart's action, as well as the general toxic manifestations.

Differential diagnosis must be made from other forms of mediastinal tumors. In general, this is based upon the history, the physical findings, the Roetgen rays and the tuberculin test. Syphilis can be recognized by the history of primary disease, the presence of other syphilitic symptoms, serological examination and the result of treatment. Lymphatic leukemia causes painless swelling of the glands, the spleen is enlarged—fever not common. Blood examination clears up the diagnosis. Pseudoleukemia, or Hodgkin's disease, is rare in children—most commonly observed in adult males. Malignancy not common in children.

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## CANCER OF RECTUM (OPERATED ON THROUGH A VAGINAL INCISION.)

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CHICAGO.

Cancer of the rectum below the level of the pelvic brim and above two inches from the anus is best removed by a combined abdominal and perineal operation as first performed by Czerny in 1884. Various modifications of the original technic have been described because our method of approach cannot be constant, but depends rather upon the extent of the disease, the involvement of other structures and organs, the patient's age, sex and physical condition. Sometimes it is possible to bring the proximal gut down through the sphincter and attach it to the skin, thus preserving the anus in its normal location, but such a procedure leads to the danger of leaving in situ intestine or lymphatics which contain particles of malignant disease.

In all cases where the rectal ampulla is involved, an exploratory abdominal section should be made through a liberal median incision. Where cancer is limited to the colon or movable sigmoid and is entirely surrounded by peritoneum, it may be lifted out of the abdominal wound and the bowel resected. This operation is quickly performed and causes no great mutilation of the tissues. But where the growth extends below the promontory of the sacrum, and is but partially covered with peritoneum, a complete removal through an abdominal incision is attended with many difficulties and mishaps and the combined abdominal-perineal operation is unquestionably the best. It permits a careful examination of the liver and the lymphatics for metastasis and by closely noting the extent of involvement of the rectum and contiguous organs determines definitely whether continuity of the bowel to the anal

region may be maintained or whether a permanent artificial anus shall be provided. This operation offers the patient the best chance of ultimate recovery and freedom from recurrence.

Fig. 1. Rectum resected above growth, and distal end inverted, peritoneum closed with drain through vagina. Colon end connected into abdominal anus.

Extension of the carcinoma beyond the walls of the rectum constitutes relative or absolute contraindications to hope of radical cure according to the extent of infiltration and also according to the structures invaded. Involvement of the glands of the meso-rectum is not a contraindication to operation as many of them are inflammatory. Involvement of the bladder is not an absolute contraindication if cystoscopic examination shows the mucosa to be normal. Involvement of the uterus and vagina is not a contraindication. The ureters may be involved as they pass through the pelvis and constitute a contraindication as does involvement of the prostate and also involvement of the sacrum.

With the perineal methods, even after the most complete and extensive removal possible whereby recurrence in the immediate vicinity is reduced, nevertheless new growths appear in situations beyond. Post-mortem examinations show that these recurrences are (a) in the pelvic peritoneum, (b) the pelvic mesocolon, and (c) the lymph nodes situated over the bifurcation of the common iliac artery. In all cases the infiltration of the parietal border of the pelvic mesocolon causes shrinkage of the mesocolon itself, whereby the pelvic colon appears to be bound down, a condition which readily explains the difficulty in obtaining a satisfactory spur when performing colostomy in an advanced case of cancer of the rectum.

From these observations we learn that the above mentioned structures constitute the zone of the upward spread of cancer from the rectum, the removal of which is just as imperative as is the thorough clearance of the axilla in cases of cancer of the breast if freedom from recurrence is to be hoped for.

The study of the spread of cancer from the rectum has led me to formulate certain essentials in the technic of the operation which must be strictly adhered to if satisfactory results are to be obtained, namely, 1, that an abdominal anus is a necessity; 2, that the whole of the pelvic colon, with the exception of the part from which the colotomy is made, must be removed because its blood supply is contained in the zone of upward spread; 3, that the whole of the pelvic mesocolon

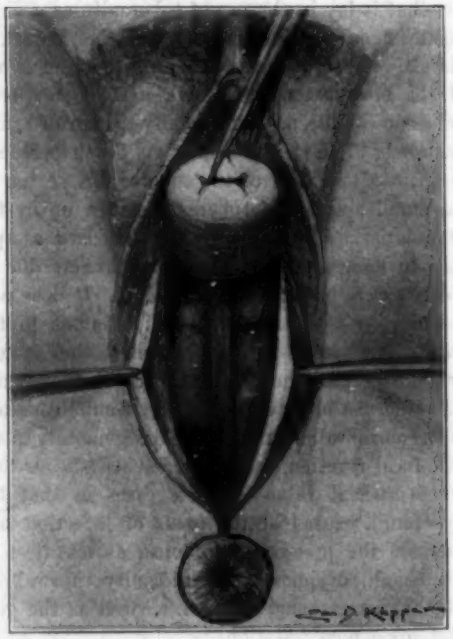

Fig. 2. Vaginal wall split, exposing rectum.

below the point where it crosses the common iliac artery, together with a strip of peritoneum at least an inch wide on either side of it, must be cleared away; 4, that the group of lymph nodes

situated over the bifurcation of the common iliac artery are in all instances to be removed; and lastly, 5, that the peritoneal portion of the operation should be carried out as widely as possible so that the lateral and downward zones of the spread may be effectively extirpated.

*Excision of the Rectum* is one of the most formidable operations in surgery, entailing, as it does, the removal of practically the whole of the pelvic colon as well as the rectum. The mortality, however, is much reduced by the two-step operation where at the first operation the abdomen is opened, the full extent of the disease determined by inspection and palpation and the toxemia relieved by an abdominal anus or a colostomy as best suits the future course of treatment.

Many of the above mentioned points of diagnosis and treatment are represented in the following case:

*Case 1.* Mrs. D., aged 48 years, has borne 8 children of whom 6 are living. The other 2 died in childhood. Menstruation was regular and normal up to 18 months ago, but none since then. About one year ago there

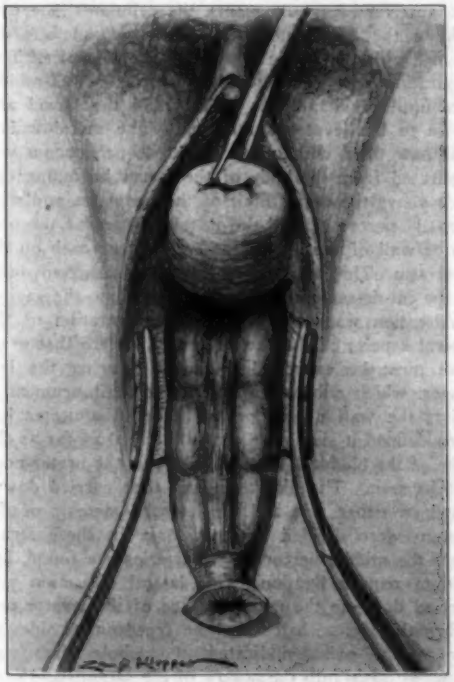

Fig. 3. Levator ani grasped on either side and cut free from rectum.

was a protrusion at the anus about the size of a lima bean (said to have been a hemorrhoid) which disappeared under treatment by her physician and has not reappeared. There is no protrusion now. For the past six months she has lost blood from the anus. It comes in gushes without relation to her bowel movements and is sometimes so severe as to cause her to faint. Her former weight was 200 pounds. Weight

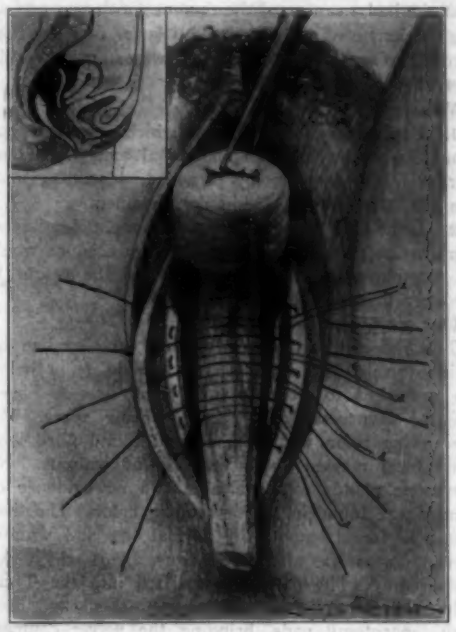

Fig. 4. Rectum removed, sutured and drains in place.

today is 163 pounds. She has had no formed bowel movements for the past two months, and lately has had only liquid stools obtained by the use of Epsom salts. There is a feeling of weight and a bruised or sore feeling in the rectum, but no definite pain. Our patient says she cannot have an evacuation without the use of cathartics which produce but a temporary flushing accompanied with much colic. She has abstained from eating rather than use the salines and has subsisted on toast, soup and tea for the past month. Inspection of the anus is negative; it is in its proper location, not retracted and presents no protrusion.

*Digital Examination:* 1. Rectal: The finger enters the rectum for about one and a half inches, when it comes in contact with an edematous fold of mucous membrane through which there is but a very small passage. The index finger cannot be introduced and the resistance is firm and hard. At the first touch the swollen mucous membrane feels like an intussusception, but the deeper feel of the mass behind is very different. The growth appears free from the sacrum, but attached to the uterus.

2. Vaginally: The tumor is easily defined, beginning two inches from the vulva and extending up behind the cervix. The vaginal mucous membrane is free from the tumor, but the uterus is fixed.

3. Bimanually an index finger in the rectum and a hand above the pubes determines the mass almost filling the pelvis. The x-ray photo showed a large mass in the rectum.

*Advice to Patient.* Our patient was told frankly that she had a cancer of the rectum which was occluding the lumen of the bowel. This latter fact she realized all to well and also that she was starving on the diet she allowed herself.

We suggested:

1. Exploratory laparotomy at which time the bowel would be opened and an abdominal anus or a temporary inguinal colostomy provided, depending upon the conditions found within the abdomen.

2. If at this operation it was thought feasible to remove the tumor later, that such a procedure would be recommended in two weeks when she would be stronger than at present.

Our patient accepted operation.

The abdomen was opened with a long median incision through the linea alba extending from below the umbilicus to close to the symphysis. A liberal opening is necessary to allow working space. The descending colon was palpated and found filled with hard fecal masses about the size of walnuts. No mesentric glands were palpable and no evidence of cancer was found in the descending colon. The liver was also found smooth, of normal size and without metastasis, as was also the pylorus, all of which was encouraging. The patient was lifted into the Trendelenburg position, the small intestines packed back with laparotomy pads, bringing the pelvic contents into view, and the patient was then returned to the horizontal. This technic facilitates a clear view of the lower sigmoid and rectum as well as protects against unnecessary handling and encroachment of other parts of the intestines. The uterus was now lifted up by a traction suture of silk introduced near the left cornu, passed deeply through the body of the uterus and out near the right cornu. This sort of traction is much less traumatic than is the vulsellum held by an assistant. Following the bowel down to the pelvic floor it was found that the disease ended about one inch above the cul-de-sac. The mass was somewhat movable in the pelvis, although attached to the lower posterior wall of the uterus.

From these findings it was decided to excise the neoplasm, but because of its extent it did not seem possible to bring down the sigmoid and re-establish the anus at its normal location. An abdominal anus was, therefore, decided upon.

The object of, or the function of an abdominal anus and that of the inguinal colostomy are not to be confused. The abdominal anus is constructed as a permanent opening. A downward loop of the colon replaces the sigmoid and rectal ampulla as a receptacle for the accumulation of feces and the course of the bowel through the abdominal muscles provides sphincteric action. The colon is emptied twice each day by means of enemas and the evacuations are thus kept under control. The skin opening is cleaner and more easily cared for. The inguinal colostomy (a loop of bowel being pulled through a stab wound low in the flank and then tacked to the skin and opened in 48 hours or less, according to the urgency of the case) is but a temporary opening for an emergency or to shut off the fecal current while plastic work is executed on the bowel below.

The permanent abdominal anus having been decided upon the laparotomy pad was carefully adjusted so that the pelvic structures were well exposed and every step of the operation brought plainly in view. For packing the bowels back we prefer one large pad the size of a small towel instead of several ordinary-sized laparotomy pads. The sigmoid was then lifted out and at a point 2 inches above the upper limit of the neoplasm the bowel was grasped with long clamps and divided with a cautery. The proximal (colon) end was covered with gauze and laid to one side. The distal (rectal) stump was carefully folded in and closed with a purse string suture and finally with a lembert suture. The superior hemorrhoidal artery was tied in two places and cut between and the mesorectum divided back to the sacrum. The peritoneum back of the rectum was next opened by blunt dissection and the mesocolon, together with an adjacent strip of peritoneum on either side of it, was detached from the hollow of the sacrum. By keeping close to the anterior sacral ligaments, the cellular tissue containing the lymph nodes in that situation was detached with the pelvic mesocolon in one piece. This separation was continued downward in the middle line until my hand was well behind the bowel and down to the levator ani muscle. The sacral wound was now filled with gauze while the peritoneum was separated from the body of the uterus beginning one inch above the upper limit of the neoplasm and with curved scissors carried down, taking part of the posterior wall of the uterus rather than encroach on the neoplasm. This anterior dissection was carried down to the cul-de-sac and an opening made into the vagina.

Attention was next paid to the separation of the lateral aspects of the rectum and it is here that great care must be exercised to avoid injuring the left ureter, which adheres closely to the peritoneum as it skirts the wall of the pelvis. When the ureter has been defined it should be carefully freed as far as the base of the bladder. On the right side the ureter need not be seen. The dissection was then carried downward on either side and the lateral ligaments of the rectum were divided with scissors. In these structures the middle hemorrhoidal arteries are found, but seldom require ligation. This lateral dissection was carried down to the upper surface of the levator ani. When the rectum had thus been freed on all sides as far as the points indicated, the whole mass was crowded down into the hollow of the sacrum and covered with gauze drain leading by a wick into the vagina. (Fig. 1.) The uterus was now drawn backward and the peritoneum closed over the gauze, thus reforming the pelvic diaphragm. This closing of the pelvic diaphragm at the first step operation is very important, because it makes the subsequent perineal removal of the rectum much easier and also lessens the shock.

*Making the Abdominal Anus.* We now return to the proximal stump and found that the sigmoid had a long mesentary, thereby lending itself to the formation of an abdominal anus. As mentioned above the descending colon was filled with large, hard fecal masses. Even in the transverse colon no soft or liquid feces could be felt. The field was well protected against contamination and by a milking process a number of these chunks were extruded into a vessel, thus emptying the descending colon and relieving the toxemia somewhat. The opening of the gut was then closed with a catgut purse string suture. An incision two inches long was made in the line of the fibers of the external oblique muscle one inch above and one and one-half inches inside the anterior superior spine of the ilium. The fibers of the external and internal oblique muscle were separated by blunt dissection (buttonholed). The wound was then held open with retractors and the transversalis and the peritoneum incised in the line of the skin incision. The stump of the sigmoid was drawn through this muscular ring until two inches of the bowel protruded. The bowel must pass through this ring without pinching. A bundle of fibers one-half inch wide was next separated from the upper lip of the external oblique and the gut drawn under this band and out again above it. A tunnel one and one-half inches long was made upward between the external oblique and the superficial fascia and a two-inch skin opening made at its upper limit. The bowel was drawn through the tunnel and out at the skin opening, where it was tacked to the skin margin. The lower flank incision and the median abdominal wound were now closed, sealed with collodion, and covered with rubber protective tissue which was sealed to the skin with chloroform to avoid infection later from escaping feces. The patient was then returned to her bed. Forty-eight hours later the purse string suture in the exposed end of the sigmoid was released and a Paul tube introduced and fastened in place with the purse string to keep it from slipping out. On the second day part of the retro-uterine gauze was removed and more on each succeeding day until on the fifth day all was removed.

Two weeks convalescence was allowed during which time intensive feeding was encouraged. The bowel was emptied and the toxemia relieved. The patient quickly rebounded from her depressed condition and was in an entirely more hopeful condition when excision of the rectum was recommended. She then received the usual preparations for a vaginal operation and was placed in the exaggerated lithotomy position (the hips slightly raised). A final examination was made under anesthesia and the tumor was easily mapped out per vagina. It began just above the internal sphincters and extended up behind the cervix, but was free from both the uterus and sacrum and was movable in the pelvis. The perineum and vagina were cleansed once more. The rectum below the neoplasm was swabbed with hydrogen peroxide dried with swabs, mopped with alcohol, again dried, and then filled with a gauze plug to occlude its lumen and fill it out, thus facilitating the subsequent dissection. The Vagina was held widely open with broad retractors, the cervix held up with a vulsellum and the opening in the vaginal wall into the Douglas pouch was enlarged transversely. The posterior vaginal wall was then incised from the cervix to the fourchette and the incision carried across the perineum to within ½ inch of the anus and a circular incision made around the anus. By blunt dissection laterally the vagina and perineal body were reflected from the diseased rectum. (Fig. 2.) As we reached the lateral borders of the rectum the levator ani and transverse perineal muscles were exposed and grasped with long forceps before cutting from the rectum. (Fig. 3.) These muscles contain the superficial and transverse perineal and the inferior hemorrhoidal arteries which will cause sharp hemorrhage unless seized before being cut. The number of these vessels is somewhat inconstant and instead of there being one inferior hemorrhoidal artery, two or three small vessels may arise from the internal pudic. Therefore active bleeders are to be looked for at all times and picked up as found. The small vessels and oozing are controlled by hot compresses held by the assistant. There need be very little loss of blood.

Beyond these muscles the dissection was quickly accomplished through the fatty tissues until the rectum lay wholly exposed except for its posterior attachments, the mesorectum and the rectococcygeus muscle. These attachments are firm and should be cut free with the scissors rather than torn away by blunt dissection, because tugging or dragging upon the sacral sympathetics increases the shock of the operation.

The rectum was now grasped in the left hand, the fingers working down behind sought the attachments and the curved scissors in the right hand clipped each as met; thus quickly cleaning out the hollow of the sacrum, taking with the mass all fat and lymphatics. By this technic the whole field of operation was always in sight, and the excision quickly, dextrously and completely accomplished. There is no dragging on the mesentary while trying to find an evasive brand that prevents prolapsing of the tumor. Traction on the mesentary while dissecting out the neoplasm causes much shock.

The tumor being removed, all active bleeders were ligated and the oozing controlled with a few hot compresses. Closure of the wound was affected with catgut sutures, uniting first the post cervical gap. When the levator ani muscle and the fascias were reached the clamps holding the muscles on either side were drawn together and the severed muscle united with mattress sutures of number 2 catgut. Below this level the wound was closed with deep sutures. Drainage was provided from Douglas pouch into the vagina and also from the hollow of the sacrum out at the perineum. (Fig. 4.) The excised mass was submitted to microscopical examination and reported as adenocarcinoma.

30 North Michigan Ave.

# ON THE VALUE OF ACCURATE LOCALIZATION OF FOREIGN BODIES IN THE EYE.

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To those of us who have had to deal with penetrating injuries of the eye in which there is a possibility of a retained foreign body, I think none will question the value of accurate localization of such foreign body.

My notes will deal with those foreign bodies which can be attracted by magnetism, as there can be no question as to the value of accurate localization of foreign bodies in the globe that are not magnetizable.

For some years after the introduction of the large magnet for the removal of magnetizable foreign bodies from the eye ball by Haab, many of us looked upon it as a sideroscope, sufficient for determining the presence of iron or steel in the eye.

The sideroscopic action, however, is limited to indicating that there is a magnetic foreign body in the eye, but unless it can attract that foreign body to the surface, it tells us nothing of its location, and the foreign body cannot be removed.

There are several reasons why the magnet does not locate the foreign body. We know that a magnetizable body can contain only a certain amount of magnetic force, and after saturation of a very small body, it may not be enough to respond to the pull of the magnetizing source. Thus it happens that very small bits of iron or steel which have penetrated to great depths into the eye ball will not respond to the pull of the large magnet.

A foreign body may be imbedded in the denser tissues of the eye ball; viz: ciliary body or sclera, and the magnetic force not sufficient to dislodge it.

It may be surrounded early by an exudate or if it has been in the eye for some days or longer, by a more or less organized capsule which prevents its dislodgment or even the eliciting of pain.

I myself held the view for some time that the means of location by X-ray was no better than by the magnet, but after an experience of over eighteen years (my first extraction having been done October 16, 1899), I must give way in a very large extent to the other view.

As many of you remember, Haab introduced the giant magnet into our armamentarium in 1898, having demonstrated its value for removing magnetizable bodies from the eye ball by pulling them up to the corneal or scleral coat, thus doing away with the necessity of introducing the tip of the magnet into the interior of the globe. and searching blindly for the foreign body (as is necessary with the small hand magnet), which usually resulted in the degeneration and atrophy of the globe and eventually enucleation.

It was not long before the magnet was introduced into this country, the first being brought to Chicago in 1899, and as we look back it is interesting to stop and think of the reception it received. Many were doubtful of its efficacy, feeling that the great force exerted would do great damage to the delicate structures of the eye ball, such as laceration of the ciliary body, breaking up of the delicate framework of the vitreous, or the attraction crossways of a very large splinter of steel, making it impossible of removal.

It was shown by Fisher, in his first paper before the Chicago Medical Society in 1899, that a long splinter would be polarized and present its long axis to the line of attraction and that small or moderate sized foreign bodies would be drawn through the zonula and thence into the anterior chamber. From these experiments and the reports of later work, rules were formulated which are of great value today.

Later he reported his statistics in 150 cases, which showed 49 cases with symptoms of metal in the eye, but negative results by the use of the magnet according to the technique as laid down by Haab. In four of these cases magnet examination negative, steel was found in the globe after enucleation. These might all have been removed had we at that time had means of accurate localization by X-ray.

We went on for several years satisfied that we were doing about all we could in the removal of iron and steel by using the magnet itself as our means of location and extraction, although many contended that all cases should be X-rayed first and an idea of the size and location of the foreign body gotten before attempting removal.

Our attention was called to the accurate localization by X-ray, however, by several workers, each setting forth a different method, but that

of Sweet has probably stood the best test of all.

Dr. Clement presented his paper before the Chicago Ophthalmological Society during 1916, in which it was clearly shown that the method was of great value.

The classical operation of Haab is applicable to, and in all probability will result successfully in the greater percentage of cases, and for that reason appealed to many operators as being the technique of first resort in all cases.

With the elaboration of localizing technique, however, I believe one must consider each case on its own merits, and I know of no better way to formulate rules of procedure, then, that we all should report such cases as will show the value of any one method.

Since 1916 when my attention was first strongly called to accurate localization of foreign bodies in the eye ball, I have had some fourteen extractions; among them four cases stand out prominently as illustrating the value of the method. They are as follows, viz:

*Case 1.* E. K. Farmer. Came for treatment March 16, 1916, referred by Dr. C. W. Geiger, having been struck in the eye by a chip of steel. It had entered through the cornea and zonule, so it was thought it could be readily extracted by the corneal route.

The magnet gave a reaction (pulling sensation with pain) over the upper part of the eye ball back of the ciliary body, but at no decided point. He was sent for localization, the rentgenologist, Dr. Hale P. Wells, reported the foreign body to be 23 MM. back of the cornea in the median line, and under the sclera above. Incision through the conjunctiva and sclera, a little to the nasal side of the superior rectus muscle was made, as the muscle lay over the point of location, and an attempt was made to extract with the magnet, but failed. He was returned to the x-ray man who reported that the foreign body had moved forward to the ciliary body, to the nasal side of the median line. A second incision was made and the foreign body attracted by the magnet. Had the incision been made more accurately at the point of location, the foreign body would probably have been removed on the first application. As it was, it slid past the opening in the sclera and became imbedded in the ciliary body. June 5, 1917, Dr. Geiger reported 15/20 vision in this eye.

*Case 2.* L. M. Aged 8 years. While playing with two hammers and striking them together, a chip of steel entered the left eye, passing through the cornea and lens in the upper outer quadrant, rendering the lens opaque. I saw him first in my clinic at the Chicago Eye, Ear, Nose and Throat College four days after the accident. The lens being opaque I tried the usual method of placing the magnet tip at the center of the cornea, with the idea of pulling the foreign body back into the anterior chamber, but after several attempts failed to get any reaction. I told the father we would have to have an x-ray examination to determine whether or not there was a foreign body in the eye, and if so its location. He consented and I referred him to Dr. Wells, who located a foreign body 2 MM. long, .05 MM. wide and thick, 3 MM. to the nasal side and .05 MM. below the optic disc in the posterior coats of the eye ball.

The problem then was how to get an incision and the magnet tip back to this location, as, profiting by the former case, I wanted to be as accurate in the point location as possible. To get full rotation of the eyeball outward, I cut the internal rectus muscle at its insertion, passed a suture through the stump of the insertion and by traction temporally everted the eyeball to its fullest extent, making it possible to get a scleral incision nearly to the optic nerve trunk. Incision through conjunctiva which was retracted by sutures passed through the wound edges, sclera incised radially ⅛ inch long through the sclera only, down to the choroid, applied magnet tip to wound and readily extracted the steel fragment of the above measurements.

*Case 3.* F. A. March 27, 1917. Came for penetrating injury right eye by chip of steel.

Examination showed an area which was highly hyperemic below the cornea, which indicated it might be the location of the wound of entrance. Application of magnet tip to this area, however, elicited pain, but no sign of bulging of sclera.

After several negative attempts to attract the foreign body by the magnet, patient was sent to Dr. Wells for localization. He located a foreign body 1x1x.05 MM. in size, 5 MM. back of center of cornea, 6 MM. below horizontal plane and 3 MM. to temporal side of vertical plane. This located the foreign body below in the temporal side of the ciliary body just external to the inferior rectus muscle.

After incising the conjunctiva below and external to the inferior rectus muscle, retracting flaps of same by suture, incised sclera at this point down to ciliary body, applied magnet tip to wound, extracted steel.

*Case 4.* O. B. March 17, 1918. Reference by Dr. Julien. Struck in left eye by foreign body while driving nail. Examination showed small scar of penetrating injury of cornea over lower border of pupil, an area of opacity in upper temporal quadrant of lens.

Magnet tip applied to center of cornea but with no response. All maneuvers devised to get response to magnet tried, even to incising cornea and placing magnet tip against the anterior capsule of the lens, but without result.

Sent to Dr. Wells who located a foreign body 0.5x0.5 MM. in size, 15 MM. back of center of cornea, 4.5 MM. below horizontal plane and 5 MM. to temporal side of vertical plane.

Eye was rotated strongly to the nasal side, incision made between external and inferior rectus muscles back of the equator, through conjunctiva, the flaps of which were held apart with sutures, sclera incised ⅛ inch radially, magnet tip applied to wound and steel extracted.

Case 1 shows the necessity of getting accurately at point of location and that the magnet tip be applied perpendicularly to the wound, as if applied in a slanting direction the foreign body is liable to slip past the opening in the sclera.

Case 2 seems to illustrate the group of cases where the foreign body was so far away from the source of magnetism that it could not attract it through the long field.

Case 3 illustrates those cases in which the foreign body was so firmly imbedded in the denser tissues of the eye ball, in this case the ciliary body, that the magnetic force was not enough to pull it to the sclera.

Case 4 seems to me to illustrate those cases in which the foreign body, although not greatly distant from the corneal surface, yet does not absorb enough magnetic force, because of its small size to react to the source of attraction.

For the technique of removal of foreign bodies from the eye, I refer you to the splendid paper of Dr. H. W. Woodruff, "Treatment of Penetrating Injuries to the Eyeball," read before this section at the 1916 meeting of the Illinois State Medical Society held in Champaign, in which he reported some very interesting cases and formulated some very excellent rules for procedure in such cases.

My own conclusions are as follows: First; in all cases presenting with penetrating injury of the eye ball, and the possibility of a retained foreign body with injury to the lens, try the magnet by the classical (Haab) method; failing of response, the application of different maneuvers such as sudden interruptions of the current to produce a to and fro action of the magnetic force, which may dislodge the foreign body from its resting place; incision of the cornea and application of magnet tip against anterior capsule of lens. These failing, localization by x-ray and removal if possible through incision over point of location.

Second; in all cases where penetrating body has entered eye ball without injuring the lens, localization first by all means, unless magnet gives indications of location close to surface of eyeball outside of lens area, extract at that point through incision of external coats.

A purely scientific procedure would unquestionably be accurate localization first, but as the patient in most cases cannot, and employing firms or casualty insurance companies will not stand the expense of localization unless absolutely necessary, we are compelled to use the magnet in most cases before anything else.

The cases reported above seem to me to show beyond a doubt that unless the clinical evidence is clear, that the penetrating body is of small size and has rendered the lens opaque completely or so much so that it will become so finally, no attempt should be made to draw it into the anterior chamber until its location and size is determined by a careful and expert X-ray examination. Then our best judgment can be used as to the best route for its extraction.

## DISCUSSION

Dr. Faith (abstract) advised sending all x-ray work to the same man, the patient to pay a good fee, if he can afford it. Then when you want a favor the x-ray man will localize or do anything you ask him to do. The National X-ray Laboratory, Pease & Hillweg, in the Marshall Field building, Chicago, is doing this localization for ten dollars, and if you ask them to do it for less, they will do it for less. He feared putting a magnet in the center of the cornea lest it dislodge a foreign body and relodge it in a very vital area.

Dr. Sealy (Woodstock) described the case of a young man who had been struck by a piece of flying metal which passed through the lower inner quadrant of the sclera. The patient had a hypophoria two or three days after this occurred. After dilating the pupil, by looking down could be seen what seemed to be a grandular looking object surrounded with exudate, and apparently it would be a simple matter to draw forward into the anterior chamber and extract it.

Having no giant magnet he tried a very powerful improvised magnet available in the manufacturing plant. Neither that nor the giant magnet used later secured any response. Later the patient was taken to the infirmary and x-ray pictures were made which revealed no foreign body.

There was no question that a foreign body entered the eye but the x-ray didn't show it. Having the x-ray first would have saved some trouble.

Dr. Goldenburg described a peculiar case that came for a refraction, with a history of finding, due to a piece of steel penetrating the eye six or ten years previous to that time. A scar in the cornea was plainly visible. The pieces of steel was located on the anterior surface of the iris and you could see the discoloration of the steel due to the heat that it had been through previous to entering the eyeball. The doctor insisted that that sheuld be removed, but the patient said it had been there so many years and he was quite satisfied to allow it to remain. He saw the man about three or four years later and could not find that piece of steel.

Dr. Hollinger noted that there is nothing new in this discovery; that these things were discussed

more than twelve years ago. For example: A needle in the elbow was seen with the x-ray completely and clearly. The incision was made and the needle was not found. Another picture was taken and the needle was seen absolutely clearly. A second operation revealed nothing, but they took tissues from the fascia in the neighborhood and examined them under the microscope and microchemically and they found that the needle had been dissolved. There were simply the iron salts left, and they hardly colored the fascia to such an extent that it could be seen on account of the blood at the time. These are facts that have been shown many times, pieces of steel are dissolved and the iron salts which are left give a shadow in the picture.

DR. HOFFMAN: I can't add anything to this, except that I want to call attention to the fact that these were all made by the Sweet method. The other night I was talking with some Mackintosh people, and they tell me that there has been an instrument devised which is going to simplify this matter so anybody can make his own localization.

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## PROSTATECTOMY.*

FLOYD STEWART, M. D.
ST. LOUIS, MO.

The title of this paper should be more explicit for it is not the technic of the operation to which I wish to call your attention, but to the pre-operative and post-operative treatment.

To obtain the greatest success in operating for hypertrophy of the prostate more attention must be paid to the preliminary and after-treatment for on both does the success or failure of the operation depend. Many a surgeon can enucleate the gland, but failure to have prepared his patient properly leads to a stormy, dangerous, post-operative period, if not death of the patient—the post-operative period is prolonged—convalescence is retarded and the return of the patient to an active life is delayed much longer than is required. A careful study of each individual case is imperative.

There is nothing gained by hurrying. True, some cases demand immediate relief of one nature or another, such as preliminary drainage; but in the large majority treatment can be instituted much to the satisfaction of the patient and an aid to the surgeon. I remember a statement made by an eminent surgeon that he lost one of his cases by being hasty, as the patient looked healthy and strong, but as one of his assistants said, "This man should not have been operated upon at this time."

Too many surgeons overlook the importance of preliminary treatment, contenting themselves with making the diagnosis, rushing the patient to the hospital—operating only to find out too late that he had made a grave mistake, much to his late regret and the sorrow of the family.

In undertaking to treat a case of hypertrophy of the prostate, whereas you may believe in preliminary treatment, do not leave such treatment to a nurse or interne—look after the details yourself, check up your findings, use all the methods to assist you in determining whether or not this patient is a good surgical risk. Rather have it said, if anything goes wrong, that you used every safeguard before submitting your patient to operation.

The success of your case depends upon a careful examination of your patient. Your mortality is sure to be high if you overlook or neglect to determine the condition of your patient prior to operation.

Therefore, systematic careful preparatory treatment is essential to success, after it has been determined that your patient is suffering from enlarged prostate.

Make a thorough systematic examination of his bladder, kidneys, heart, lungs and vascular system.

Determine first the amount of residual urine, condition of the urine, chemical analysis of same, particularly if it contains blood, pus, etc.

Condition of the bladder wall.

Size—opening of the ureters; also if stones are present.

The amount of residual urine can easily be calculated by passing a catheter, measuring the amount of urine.

The 24-hour quantity of urine should be taken.

If possible, which it is not in every case, a cystoscopic examination with catherizing the ureters must be made. A small bladder, little residual urine—high in specific gravity, loaded with pus—24-hour quantity low—with highly inflamed bladder—this examination will be impossible.

Inflamed mucosa is indicative of faulty renal functions, highly concentrated urine and great infection.

To correct such a condition, wash out the bladder, order the drinking of large amounts of water,

*Read before the Southern Illinois Medical Association, November 2, 1917.

give hexamethylamin 5 to 10 grains, four times a day, correct the diet with large amounts of green vegetables, perfecting the elimination through the bowels and skin. Wash the bladder out at least once a day, beginning with boric acid solution and then using nitrate of silver, increasing the strength as rapidly as patient can stand it, either leaving a small amount of the solution in the bladder or instil 10 per cent. solution of argyrol. It is my rule to give hexamethylamin for 2 or 3 days before beginning the bladder irrigation.

The opposite condition—a large amount of residual urine with little or no infection, pale bladder wall distended beyond normal limits—neither of these conditions indicates good surgical risk, but on the contrary, indicates danger from a surgical standpoint unless preliminary treatment is given to guard against renal impairment—acute uremia and ascending infection—damage from relieving the back pressure too quickly.

This condition is controlled by indwelling catheter, but if the amount of residual urine is very large, do not withdraw too much at one time as the damage due to relieving the back pressure may cause serious consequences. What I stated regarding diet and elimination must be carried out.

Do not leave the catheter in place too long and, of course, no catheter is used if an active inflammation of the urethra or epididymitis is present.

It must be remembered that abnormalities are the rule in these cases and that ideal physical condition is the exception.

After the bladder, the kidneys should be carefully and intelligently examined.

To determine the condition of the kidneys, the 24-hour quantity must be taken, the urine from each kidney collected, that is, provided it is possible to do so, which it is not in a small number of cases.

After the urine has been collected from each kidney, they are then tested with phenolsulphonphthalein and this test must be repeated at varying intervals, depending upon the result of the examination, but it is not always imperative to use the ureteral catheters.

The test is applied as follows:

Geraghty and Rowntree states: The test is made by emptying the patient's bladder completely and 1 c.c. of the standard solution of the drug injected into the muscles of the back.

At the end of one hour the entire contents of the bladder should be carefully collected, and the amount of the drug secreted accurately estimated by a colorimeter. Again, at the end of the second hour, another such collection and similar examination should be made.

As to the value of the phenolsulphonphthalein test, the phthalein test has given valuable information in all these cases and has enabled us to differentiate those cases with severe renal damage from those in which the renal involvement is slight. As a rule, the test has demonstrated the greatest impairment of function in those cases which have large residual urine and have not been leading a catheter life. Clinically, this type of case is recognized as the most dangerous when operation is undertaken without preliminary treatment. In many instances in which the output of the drug was low when the patient was first seen, the adequate regimé described above has resulted in a decided improvement of the kidney function as indicated by the test.

When the time of appearance is delayed beyond twenty-five minutes and the output of the drug is below 20 per cent. for the first hour, operation is postponed regardless of the patient's clinical condition. If under routine treatment the output remains low, but constant, the renal function is probably in a stable condition, and the operation may be undertaken, care being taken to select an anesthetic which will not further depress the renal function. In one instance a successful operation was performed with an output of 8 per cent. for the first hour, but this output had remained constant for a period of five weeks. The low output here was ascribed to chronic interstitial changes in the kidney, and nitrous oxide was accordingly employed.

When the residual urine is large and the patient has not been leading a catheter life, even if the output at a single determination is large, operation is deferred in order to determine whether the functional activity is stable, for it has long been recognized that following the relief of retention the function of the kidney is extremely variable. Repeated determinations should be made, and, except when unavoidable, operations should not be performed when the tests indicate a decreasing function. There have been two such cases in our series, in both of which operation was followed by death from acute suppression. Again when only a trace of dye is

excreted, operation should not be attempted, as grave renal changes exist. Two cases excreting only a trace died of uremia within a short period. In neither case was any operation performed, though clinically at the time of the first test no evidence of uremia was detected.

Following this the blood pressure must be taken. High blood pressure does not indicate a good surgical risk, though it has been proven that after the operation is completed, the blood pressure falls.

Peacock states that there is a direct relation between the degree and duration of an obstruction in the lower urinary tract and the blood-pressure and reports 7 cases of prostatectomy with blood-pressure observations. These cases illustrate the fall in blood-pressure that accompanies a relief of the obstruction and the consequent back pressure on the kidneys. The sudden relief of the obstruction with the consequent lowering of the blood pressure to a level insufficient to secure adequate kidney function precipitates an acute nephritis. This is the real cause of the high mortality of prostatectomy; not shock or hemorrhage.

In the 7 cases operated upon there was a fall of blood pressure of from 10 to 110 mm. Hg. upon the relief of the obstruction by a simple cystotomy.

After a study of his cases, Peacock concludes:

1. There is a definite physiologic relation existing between the blood pressure and the filtration in the kidney glands.

2. A high blood pressure is purely compensatory and necessary to the individual in which it is found, to maintain a normal excretion of urine.

3. Any sudden and permanent lowering of the blood pressure by radical or heroic measures is often a fatal procedure.

4. A persistently high blood pressure, even in the absence of albumin and casts, usually means a hidden nephritis.

5. A chronic prostatic obstruction produces serious back pressure changes in the ureters, the kidney substance, the kidney circulation, and the excretion of urine.

6. A sudden relief of this intravesical pressure produces an immediate fall in blood pressure from 20 to 100 mm. Hg.

7. If pre-operative blood pressure is much over 150 mm. Hg., the risk of a cystotomy or prostatectomy advances rapidly.

8. Compensation between the blood pressure and the urinary excretion will take place if the pressure is not abnormal and will occasionally in a high pressure where there is unusual vitality or compensatory power.

High blood pressure must be controlled by correcting the diet—stimulating the elimination and rest in bed if that is necessary. In some cases it is not, but in others a rest of 1 to 3 weeks will bring about a reduction.

Arteriosclerosis, if not pronounced, is not a contraindication to operation if the blood pressure can be controlled.

Blood urea is determined and is found in cases of poor elimination of the phthalein test, and though it is a dangerous condition from a surgical point of view, still, it is amenable to appropriate treatment. Impending uremia is indicated by retention of acid salts in the blood and should be eliminated by using bicarbonate of soda.

The general health of the patient is carefully watched; instructions as to diet, drinking of large amount of water, free elimination, must be given and insisted upon being followed implicitly.

Regarding the reaction of the urine, suitable drugs must be given, though as a general rule, hexamethylamine can be used, but should the urine be too acid, such drug as citrate of potash, bicarbonate of soda are used.

Local irritation is taken care of by instillation of 10 per cent. argyrol, together with large amount of water by mouth.

In acidosis give bicarbonate of soda in large doses until the urine is alkaline. Young advises in advanced cases that it be given intravenously, also glucose and lactose—former by infusion and latter by rectum.

I wish to go on record as advocating the two stage operation. It is the safest and best for where a patient makes a good recovery from the preliminary procedure, he can stand the second stage practically without any danger to his life, provided the preliminary treatment has been thoroughly and conscientiously carried out.

Some cases demand suprapubic drainage before the preliminary treatment has been instituted, such as in retention, very large prostate, infected urine and inability to pass catheter. In those cases after the bladder has been opened and drainage established, the above treatment must be vigorously pushed before any further operative measures can be done if the case is to be carried through successfully.

In all cases select a suitable size tube; rather have it too large than too small. Place the tube carefully so that it will not cause any irritation.

Open the bladder high. Close the space of Retzuis thoroughly. Anchor your tube securely. Avoid too frequent irrigations, but above all else, watch the dressings—see that they are frequently

and carefully changed. An experienced surgical nurse is invaluable in these cases.

The success of your operation depends on your after treatment. Do not leave too much to your nurse or interne, take active charge for at least 48 hours.

The great bugaboo is hemorrhage and he who wishes to have comfortable nights will do well to watch carefully and instruct the nurse accordingly.

*Hemorrhage.*—Careful and minute instructions must be given to the nurse to ever be on her guard, to be alert regarding this serious and dangerous complication. I know of one case where it was not discovered until the blood was found on the floor, having soaked through the mattress.

In perineal cases an extra strip of gauze soaked in adrenalin may be tried, increasing the pressure which should not be allowed to remain too long.

Remove the packing around the drainage tube, irrigate with hot water, wash out the clots and repack, or, if possible, tie off the bleeding point and then repack.

In suprapubic cases pack the entire bladder.

Hagner has devised an excellent device—an inflated bag with a catheter attached which is brought through the urethra and fixed by adhesive strips to the thigh. The bag is inflated and by traction on the catheter any degree of pressure can be produced. This effectually controls the hemorrhage. Irrigating through the drainage tube with hot water, with or without adrenalin, sometimes accomplishes the purpose.

Suppression of urine is the next great important complication. With thorough preliminary treatment this complication does not now develop as often as it did, after proctolysis of saline and glucose given 80 drops to the minute.

Where the operation has been prolonged for one reason or another, and a large amount of ether has been used, I order 10 grains of muriate of quinine to be given with the saline proctolysis. This measure has an added feature of reducing if not eliminating nausea.

At the earliest possible moment, I insist upon my patients resuming the drinking of large amounts of water, giving hexamethylamin several times a day.

*Shock.*—The two stage operation is practically free of this complication. Should it occur, heat, stimulation must be instituted at once.

*Gangrene.*—Give proper, careful and constant attention to the dressings—for the dressing must not be allowed to remain after they have become wet, even though it means changing the dressings as much as 10 to 12 times a day. Keep the skin dry—avoid irritation by the use of some bland ointment.

*Bowels.*—Tympanites and abdominal distention can be overcome by using a saturated solution 4 to 6 ounces of magnesium sulphate injected 6 to 8 inches in the rectum and retained for at least 10 minutes. So successful is this procedure that neither coceine or morphine is indicated and seldom do you have to use pituiturin or eserine with strychnine.

*Drainage Tube.*—Insist upon a large tube being used. This tube is to be kept in place 4 to 6 days when a smaller one is inserted, though I see no reason for removing at any certain time, but judge same by the patient's condition and the appearance of the wound.

*Diet.*—As early as possible insist upon patient resuming a generous, nourishing, but easily digestible diet.

Do not allow patients to become bedridden. Get them up as soon as conditions permit. Old men are sometimes hard to manage and resist being made to get up.

Prior to placing them in a wheel chair, I have the head of the bed raised as early as the second day.

After the first 24 hours, patients can be turned, but before that they must remain on their backs.

Massage is given every day.

Sounds are passed after the tenth day and once a week after that.

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## STILLBIRTH DUE TO INFECTION.*

ED. L. CORNELL, M. D.
CHICAGO.

The subject of infection as a cause of stillbirth is one about which little is definitely known. Most of you appreciate the difficulty we experience in this country in obtaining the stillbirth infant for scientific work.

Much has been done in the animal kingdom on the bacillus abortans and it has been claimed,

*Read before the Englewood rBanch, Chicago Medical Society, May 7, 1918.

though not definitely proven, that this bacillus is able to produce abortions in humans. To my knowledge, no one has succeeded in proving scientifically that any one bacillus is a cause of stillbirth.

It was noted by DeLee some time ago that often patients who showed signs of infection had stillbirths. He reported his observation in the *Journal A. M. A.*

Shortly after I was fortunate in having a case of stillbirth in which I was able to demonstrate the pneumococcus in both mother and baby. This was reported in the March 17, 1917, number of the *Journal A. M. A.*

These cases are comparatively few and far between, but last June one of my patients presented, stating that she had not felt fetal life for several days. The report of this case in detail is interesting:

Patient 372, age 29, IV-para, a housewife, Jewish, presented February 19, 1917, with the following history: Her last period was December 8, 1916. Family history: Mother dead, cause unknown; father living and well; two brothers and two sisters living and well. Otherwise the family history was negative. Previous illnesses: tonsilitis and leucorrhea. Previous labors: first, 7 years ago, breech case, now living; second, dead baby, well formed; third, live baby for six months, carried to full term and delivered in a macerated condition.

At the time she presented, she complained of pain in the stomach with nausea, but no vomiting, also constipation, anorexia and some pains in the lower abdomen, which were indefinite in character. She seldom had a headache. She had a rather profuse leucorrhea, which was white in color.

On general examination the head, neck and chest were negative. The muscles of the abdomen were relaxed and the uterus was normal in size and shape for a three months' pregnancy. Locally, the cervix was found to be lacerated and the os and surrounding mucosa inflamed; tubes and ovaries were negative. The blood pressure was 112 systolic, 54 diastolic. She was given potassium permanganate douches and a tonic capsule.

March 20 she reported for examination, stating that she felt better, the abdominal pain was not as severe, but that the bowels were constipated. The blood pressure was 110 and 68. April 20 the blood pressure was 112-72, the appetite good, she felt much better and the bowels were moving once a day. May 21 the blood pressure was 100-64 and the patient felt very well. June 19 the blood pressure was 118-65. The patient stated that the baby had not been active for several days, but the heart tones were heard and were regular. July 23 she appeared at the office and a diagnosis of a dead baby was made. The patient did not complain of any discomfort.

In the early part of July, suspecting that we were dealing with a case of stillbirth, I sent the patient to Dr. A. M. Moody for bacteriological study. He reported, under date of July 31, that ærobic and anærobic cultures made from the cervical discharge revealed the presence of staphylococci, gram positive diplococci resembling streptococcus viridans and diphtheroids. The throat cultures contained streptococcus viridans and occasional staphylococci. The teeth cultures contained streptococcus viridans, staphylococci and the usual anærobes, B. fusiformis, diphtheroids and streptococci.

The patient went into labor August 17 at 6 p. m. and had a 13-hour first stage labor, with a three and one-half-hour second stage labor. The bag of waters was ruptured artificially at 7:30 a. m., August 18. At 11 o'clock a dead baby was extracted by craniotomy as the uterus seemed to be unable to expel it. The child was badly macerated and looked as if it was a six months' fetus. The placenta was expelled spontaneously and was intact. The cervix bled sufficiently to necessitate two stitches to control it. The patient did not have a temperature over 99.5 during the puerperium. November 5, 1917, the uterus was found to be in good condition.

The fetus and placenta were given to Dr. Moody, who presented the following report: Placenta—gram negative bacilli and spore-bearing gram positive bacilli (probably both saprophytic). The liver contained organisms similar to those found in the placenta. Body fluid—diphtheroids and organisms similar to the above were isolated. No streptococci were found. In the gross examination of this fetus, no evidences of syphilis and no malformations were present.

X-ray pictures taken of this patient showed the upper right cuspid, upper left first molar and the lower left molar involved with apicial infection. The upper left third molar root had not been extracted.

Dr. Moody endeavored to grow the various organisms found in the mother, placenta and fetus through sub-cultures, especially the diphtheroid group. He was unsuccessful, however, as all of them died out before it was possible to pass them through animals. We had planned to endeavor to produce stillbirths in the lower animals, but were unfortunate.

It has been recently reported that the diphtheroid bacillus was capable of producing abortion in the lower animals. Whether the bacillus we found in this case was similar to the one reported it is impossible for me to say.

As far back as 1908 Franklin Mall reported that he was able to demonstrate bacteria in the placenta of many monsters. Recently DeLee has demonstrated bacteria in the case of anencephalus (private communication).

If it is possible to prove a bacterial origin for monsters and malformations, why is it not

probable that bacteria may be a factor in producing those cases of stillbirth not distinctly syphilitic?

Again, if the syphilitic organism is able to penetrate the placental and fecal circulation, why should not other bacteria be able to do the same?

While I am not able to prove definitely that focal infection is an etiological factor, the two cases I have been able to study fairly accurately seem to bear out the contention. In the first case referred to the pneumococcus was found in tonsil and vaginal secretion as well as in the fetus. In the second a diphtheroid was found in the teeth and vaginal secretion.

I appreciate the fact that we are in the focal infection age fad, but I believe we can justly use good sense in the matter and perhaps arrive at some line of treatment in those cases of persistant stillbirth in which syphilis is not a factor.

122 South Michigan Ave.

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## THE TREATMENT OF OTOSCLEROSIS FROM AN ETIOLOGICAL PATHOLOGICAL STANDPOINT.*

H. L. Pollock, M. D.,
CHICAGO.

Judging from the large number of patients who have come under our observation during the past few years, suffering from otosclerosis, we must conclude that either this condition, like carcinoma, is attacking more and more of our population, or else that our methods of diagnosis have become more efficient than formerly; and hence we are recognizing this disease more frequently now than we did in the past.

My opinion is that both conclusions are true, although I am positive that with our more complete and painstaking examinations, many cases are now diagnosed as otosclerosis that we formerly classified under different diseases. If my hypothesis as to the etiology can be proven, I am sure you will all agree with me that the number of cases is on the increase owing to the prevailing conditions which underlie the etiological factors.

First permit me to state what otosclerosis is, and not all authorities agree exactly on this point. Most writers agree that any case in which Bezold's triad is present, must be recognized as otosclerosis. This triad consists of (1) elevation of the lower tone limit or loss of hearing for musical tones; (2) prolonged period of hearing by bone conduction; (3) negative Rinne.

G. W. Boot[1] agrees with this definition, except he modifies it as follows: "I believe otosclerosis to be a non-suppurative osteitis of the bony capsule of the labyrinth secondary to a primary focus of infection elsewhere in the body." George H. Shambaugh believes that heredity plays an important aprt in etiology. Given a hereditary predisposition, the process remains latent until aroused by some active stimulant which is not always the same as, for instance, pregnancy, anemia, or some foci of infection. (Personal communication.) J. Fraser[2] believes there are only four possible ways in which the affection may arise: (1) it may be congenital, (2) it may follow inflammatory changes in the middle ear, (3) may be due to an infection through the blood, (4) may be caused by abnormal conditions in the nerve supply of the parts affected. It is his belief, however, that the most probable cause is that it follows inflammatory changes in the middle ear. He shows microscopical slides which demonstrate the typical spongification in two cases which he was fortunate enough to obtain at post mortem.

While we all recognize the fact that otosclerotics may get a middle ear inflammation and suppurations, we also know that we see a large number of cases diagnosed clinically as otosclerosis that never have had the slightest sign of a middle ear suppuration. On the other hand, it is true that patients suffering from otosclerosis usually experience a profound increase in their symptoms during an attack of middle ear infection.

What are the pathological changes which take place in the bony wall of the labyrinth? According to Siebenmann, the changes are as follows:

1. Vascular and fibrous marrow penetrates the normal Haversian canals causing dilatation.

2. Next, there is a lacunar resorption by giant cells of the cartilage bone of the labyrinth capsule, resulting in the formation of large spaces containing blood vessels and numerous cells.

3. New deeply staining bone is deposited in the walls of these large spaces.

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*Read before the Section on Eye, Ear, Nose and Throat, at the 68th Annual Meeting of the Illinois State Medical Society, at Springfield, May 22, 1918.

1. Ill. Med. Jour., Sept., 1915.
2. Jour. of Laryn., London, 1917.

4. The new bone becomes dense and gradually loses its affinity for the basic stain.

In other words, in the early stages of this disease there is a spongification and softening of the bony labyrinth, and later the bone becomes dense and sclerotic. There are certain other diseases in which similar microscopical changes occur. This is true of the bony changes found in atrophic rhinitis, hyperplastic ethmoiditis and in osteomalacia, also in the bones in early pregnancy.

During the past few years my associate, Dr. Joseph C. Beck, and I have been presenting our studies on the various phases and manifestations of an altered ductless gland secretion. In a combined paper read before the Academy of Otolaryngology, etc., 1916, we pointed out the similarity of the bony changes in these various diseases, and by deductions attempted to prove that the underlying condition in all of them is due to a disharmony of the ductless gland secretion. Bossi, who was the first to demonstrate this pathological bone condition of osteoporosis or osteomalacia in animals that survived the operation of complete removal of the adrenalin gland, found that when cases of osteomalacia were treated with hypodermic injections of adrenalin chlorid, the bones became more firm and solid, this being due to an increase of the calcium salts.

It is very simple to explain the etiology of otosclerosis on this theory, i. e., of altered ductless gland secretion, but we must go a step farther and seek the cause of this altered secretion. In other words, seek the cause of the cause. The physiological and pathological secretions of these ductless glands are still somewhat of a mystery and when the question of a hypo or hyper activity of each gland can be demonstrated by our physiological chemists, then many of our unsolved problems in medicine will have been answered. Crile has shown what shock, anger, etc., can do to change the normal activities of the ductless glands and we firmly believe that toxemias of chronic focal infections also are an important factor in disarranging their peaceful harmony. The authors whom I have just cited all agree that a focal infection plays an important role in the etiology of otosclerosis, but none, as far as I can learn, have attempted to show that it is through the ductless glands that this is brought about. When we look over the history of our cases, it is, indeed, a rarity to find a case of uncomplicated otosclerosis. By that I mean an individual who is free from sinus affections, either suppurative or non-suppurative, from defective septum or spurs or from degenerated, diseased tonsils or adenoids.

In catarrhal otitis media, we all know that by correcting these abnormal pathological conditions, a beneficial influence is bound to result in a large percentage of cases. Some of my critics might attribute the good results which we obtained by surgical interference to local effects, but how can they explain the excellent results in same cases by removal of the infected gall bladder, a chronic appendix, or other focci at a distance from the ear.

There are other conditions, such as shock, anger, fright, probably anemias, etc., which also have a baneful influence upon the ductless gland secretions. There is another very important point which must be taken into consideration at this time. Why, when there are so many people suffering from chronic focal infections, are there proportionately so few cases of otosclerosis among them? There is no question that heredity, as pointed out by Gray of Glasgow, plays a very important role. We know that there are many families with unstable nervous systems, and we must certainly believe that there are many with unstable ductless gland systems. It is in these families where chronic focal infections, the great etiological factor of an altered ductless gland system, are the basis of the condition which we recognize clinically as otosclerosis.

We know that this disease makes its appearance usually in young adults, about the time, or just after puberty. That a great change takes place in the ductless glands at this time is a well-established fact and that the system requires a rearrangement of these glandular secretions is recognized by all physiological chemists. We must conclude that at this unusual period of our life the system is more unstable than at any other time, and a very slight disarrangement of the ductless glands, due to any cause, may create grave disturbances.

It is at this period of life when anemias are common, when colds and tonsillitis are more frequent and when the accessory sinuses are fully developed and are subject to infection.

It is also just at this period of life when an almost analagous pathological bone condition occurs, viz., atrophic rhinitis. As shown by Dr. Beck and myself, in this latter condition, a rarifaction or spongification of the turbinate bones occurs just as it does in osteomalacia, otosclerosis or in the bones of early pregnancy.

If these bony changes can be produced in animals artificially, must we not conclude that in the human the same osteal-pathological change occurs in individuals who are suffering from an altered ductless gland secretion? That chronic foci of infection may be the etiological factor in producing this disharmony we must concede, for a removal of these foci invariably has a beneficial effect upon the progress of the disease.

When a young adult presents himself with a history of progressive deafness accompanied by tinnitus, in which Bezold's triad is present, we must diagnose his condition as otosclerosis. As stated before, an uncomplicated case, i. e., without further pathological conditions, is a rarity. Nearly all show evidences of an accompanying non-supurative otitis media. They may have chronic infected tonsils or chronic sinus disease. To make out diagnosis more positive, we concluded that these areas of osteoporosis must show themselves in x-ray of the mastoid. The result of our investigation along these lines was given by Dr. Beck in a paper read at the 21st annual meeting of the American Laryngological, Rhinological and Otological Society in 1915.

We can show difinite areas of softening in the bony labyrinth. If our hypothesis as to the etiology is true our treatment must then necessarily be directed toward the removal of the infected foci and an endeavor made to restore the endocrinous gland system to perfect harmony. Our treatment is as follows, that is, after the diagnosis has been made clinically and by x-ray: The offending focci is removed, whether it be tonsil, accessory sinus, appendix, gall bladder, or what not. Sometimes, owing to causes over which we have no control, we are unable to proceed to the removal of the suspected focus, or we have not been able to definitely locate it. We then attempt to proceed to the restoration of the harmony of the ductless glands. Experience has taught us that there is almost always a hyposecretion of the adrenalin or the hypophysis. As the physiological effect of the two are similar in many respects, we generally employ the former one.

The amount injected and the time intervening between treatments varies in individual cases and we must be guided by clinical symptoms brought about by the injections.. We depend a great deal upon the blood pressure, and when it rises and remains higher than it did before the treatment was instituted, we refrain from further treatment, until the blood pressure has receded to what it was before. Generally speaking, the treatment is started with 3 minims of adrenalin injected subcutaneously three times a week. The amount of the adrenalin is increased gradually so that at the end of eight weeks we are employing from 10 to 12 minims. There is then a period of rest from four to six weeks and the treatment again started. This time we begin with about 5 minims and gradually increase our tri-weekly treatments until fifteen minims are employed. Another rest and another course of treatments, etc. The entire period covers about one year. It usually appears to take about this length of time to have the adrenalin gland restored to its normal function.

In nearly every case there is a slight increase in the hearing and a decrease in the tinnitus after the tonsils have been removed or intranasal or accessory sinus trouble eliminated. This increase is due to the removal of the foci *per se* and has its beneficial results upon the accompanying catarrhal otitis.

The result of the adrenalin and pituitrin injections has been very beneficial to the patient as it usually ameliorates the tinnitus and permits the patient to retain that amount of hearing which he had. The treatment is of practically no value if the hearing is almost totally destroyed. The earlier in the course of the disease the treatment is begun the more gratifying are the results.

## DISCUSSION

### (Abstract)

Dr. Hollinger (Chicago) agreed with Dr. Pollock that the disease termed otosclerosis is much more frequent than we supposed. At the same time, we must be very careful to limit our diagnosis to the cases which in every way coincide with the picture that has been mapped out.

The inflammatory nature of the disease ought to be definitely denied. We find no indications of inflammation in clear cases; to judge from those cases where in connection with middle ear trouble we find otoscleros-

tic fossi in the capsule of the labyrinth that all cases are inflammatory would be going entirely too far. Swellings of the periosteum over the fossi has been shown in miscroscopic specimens, and those swellings have been proven to be post mortem. The earlier we get the specimen, the less swelling we see. If we get the specimen three to five hours after death, they are no swellings of the periosteum over the fossi at all.

The comparison with osteomalacia is very interesting, but he does not think that it will hold good. Osteomalacia is a typical disease of the whole bony system, and the first case where the direct connection of osteomalacia with the ovaries that has been shown was a case where he made the diagnosis of osteomalacia personally during his assistantship in Switzerland, where he sent a case of osteomalacia into the hospital. The ovaries were found diseased and removed, and to the surprise of the clinic, and everybody concerned, that woman who from the knees up to the shoulders and otherwise absolutely immovable without the greatest pain, straightened out in bed and in less than two or three weeks, she was practically through with the most distressing symptoms of osteomalacia. But ostosclerosis where you have the fossi absolutely circumscribed only in the capsule of the labyrinth, that any kind of a secretion of a ductless gland should have such an absolute selective effect is going too far.

As for the comparison with atrophic rhinitis—in otosclerosis we have new formation besides the destruction, if that is what you want to call it, for it is not exactly destruction but rather change. In atrophic rhinitis, it is only destruction, it is only loss of tissue, not new building, not new formation.

Heredity, of course, is generally considered, and the more carefully we go into heredity, the oftener we find it; it has been given up to eighty and eighty-five per cent.

If Dr. Pollock succeeds in getting results, we will all be very grateful, because any procedure that assures any amount of success in these cases must be welcomed. But, under all circumstances, remember that it is not a definitely progressing disease; it is a disease which goes to a certain point and then stops, usually to the higher stage, and to call the stopping improvement is a point you have to guard against.

If Dr. Pollock brings us the histories with the regular hearing tests and the regular controlling tests from time to time certainly we will gladly accept his arguments, but we have to be careful about our conditions. Infected tonsils, irregularities of the nose, of the sinuses, have to be taken care of. Every recurrence of inflammations in the nasal pharynx is bound to hurt the conditions in the middle ear, and anything that is liable to increase the blood supply toward the ear and toward the labyrinth is bound to hurt.

From this standpoint we have to regard the increase of deafness during child-bearing, the increase of deafness in these cases after prolonged exertion, after overwork, after worry—all these causes have the common effect of producing a prolonged hyperemia of the capsule of the labyrinth, and in this way bringing an advance of the disease itself.

DR. POLLOCK: As I stated in my paper, this was a hypothesis which we brought forward as to the etiology. I simply showed a comparison of the bony changes of ostosclerosis in these various conditions which you all know, and especially the case of osteomalacia.

Two years ago I showed at the American Academy of Laryngology cases we treated in our hospital of osteomalacia, where there were fractures, and which after about three to six months' treatment with adrenaline and a redeposit of the calcium salts, these patients were able to walk around, and the bone was in as good condition as it had been before the woman became sick.

As far as the case the doctor refers to in which the ovaries were removed is concerned, the ovaries are a part of the ductless gland system, and it is these ovaries that in a young individual will cause this disharmony. I don't know what it is, whether it is a hypo or a hyper-secretion of one or the other, but I believe it was a disharmony of the ductless glands.

Another case which the doctor refers to, where otosclerosis gets worse in pregnancy—this isn't due to mere congestion. We know by x-ray pictures that there is an enlargement of the hypophysis during pregnancy, and when there is too much secretion in the hypopysis at the end of the nine months, this excess is thrown off into the blood, and it is supposed to cause a contraction of the uterus. It is also an altered ductless gland secretion.

All of these things, if you look back, will tend to make us believe that there is some disharmony which causes it. Why the selective point is in the bony labyrinth I have not been able to tell you, but seven or eight years ago I presented a paper on atrophic rhinitis in which I fed patients on ductless gland and got an improvement in a great many of them. That was the beginning of our studies, and it is difficult, without any former knowledge, without any reference work, just to see how much and how little of this ductless gland secretion they could absorb.

In regard to the actual results obtained, I did not state that we had any startling results. We have been led to believe that otosclerosis is a progressive disease beginning in young adults, and you have all seen them progress so that the hearing is possibly obliterated. But if you take young adults and have treated them, as I did, for five years, and see their tinnitis improve, not disappear; and they retain by our tests the hearing which they possessed five years ago, I think that we have some ground on which to base our conclusions. Otherwise, you simply throw up your hands and say we can't do anything for otosclerosis. But our histories will show that they retained about the same amount of hearing. And, as I stated, some of them were improved by the removal of these infected fossi, due to the removal of the fossi per se, and not to the change in the ductless gland, and they have re-

tained that increased hearing which was brought about by the removal of the fossi.

There was one exception. I had a case of a young woman about twenty-six or seven, who was very hard of hearing, had tinnitis, had the typical symptoms of otosclerosis. I gave her adrenaline injection and her hearing increased perceptibly. I treated her for a year according to this method, and whenever I stopped that treatment, she would get worse. I treated her for two years, and I stopped, and she is just as bad now as she was before. This is one case which I recall in which the injection of these secretions only helped her temporarily, and that was the little that we injected, and it did not seem to stimulate. I tried pituitrin and adrenaline. Only when I gave her the treatment was she better.

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## THE PATHOGENESIS OF OPHTHALMIA ECZEMATOSA*

(A FURTHER REPORT)

MICHAEL GOLDENBURG, M. D.,

Acting Surgeon, Illinois Charitable Eye and Ear Infirmary, Medical Society, at Springfield, May 22, 1918.

CHICAGO.

The preliminary report was made at the last meeting of the American Medical Association, New York.

Phlyctenular conjunctivitis and phlyctenular keratitis, which have been so exhaustively described in the literature of the past under separate headings, and which I have taken the liberty of classifying as one disease, is I believe, justified, and I feel confident that those who have given this condition serious consideration will agree with me for the following reasons:

First, I do not recall one instance where the pure case was absolutely limited to the cornea or conjunctiva; both are invariably involved at one and the same time. Second, that the disease *per se* affects only the epithelium of the conjunctiva and cornea. When it affects the deeper tissues of these structures, it is due to secondary infection, not to the disease under consideration, e. g., corneal ulcer. It is worthy of note at this time that these tissues and the tissues of other parts usually involved at the same time, e. g., the skin and hair, are all of epiblastic origin. It is owing to this collection of facts and others to be enumerated that I have seen fit to place this disease or syndrome under the single classification of ophthalmia eczematosa.

*Read before the 68th Annual Meeting of the Illinois State Medical Society.

This condition, or disease is and will always remain an interesting subject to ophthalmologists, pediatricians and dermatologists. To the ophthalmologist, owing to its common prevalence, complications, sequelæ and frequent recurrences; the pediatrician, as a disease of childhood with an annoying complication to a part that he is loath to treat; to the dermatologist as another form of eczema that he will have to solve, and I am inclined to think that it will be the dermatologist, or pediatrician who will say the last word upon the etiology of this question. I wish to further go on record with the statement that this condition will never be controlled as we have been able to control such diseases as smallpox, diphtheria and others of like character. First, because it is never serious as to life, therefore will never receive the detailed care necessary. Second, that it is a disease of childhood and in an element almost impossible to control. Third, because it is not bacterial, therefore no antitoxine or vaccine will cure it.

The etiology of this condition has been attributed to nearly everything possible to produce disease, depending largely upon when the essayist was working, by which I mean what disease or theory of dyscrasia was most popular at the time. For an example, when the tonsil and adenoid question first became popular this disease was thought to be due to that, and so followed or preceded the scrofulous theory, intestinal putrefaction, anaphylaxis, tubercular, and now we are commencing to hear of diseases of the accessory sinuses and teeth as the casual factor or factors.

To attribute the symptoms of this disease to tuberculosis was a logical deduction in view of the marked prevalence of this disease and the astonishing statistics compiled by workers in the dead house. Then followed the skin reactions with their almost 100 per cent positive findings after the second year of life, but the fact remains ophthalmia eczematosa is rarely seen before the second year and is not common after the eighteenth year of life; further, the very rapid control of these symptoms and the rare relapse in the adult is not compatible with tuberculosis.

It was this phase of the question that first attracted my attention some eight years ago. Working in a field of almost unlimited material with excellent opportunity for observation and

some experimentation of which we have tried to take advantage, and I now feel that I am in a position to make some deductions.

I naturally started with the theory then at its height, that is the tubercle bacillus or its toxine as a casual factor, and instituted treatment and regimen accordingly with the same results obtained by most observers. Being somewhat disappointed with these results I questioned the premises upon which the theory was based and therefore resorted to a little experimenting in that direction. I then concluded to treat a series of cases with an anti-tubercular therapy, e, g., ferruginous tonics, fresh air, over-feeding, etc., omitting the use of tuberculine and found the results just as satisfactory.

To have made a statement at that time contrary to the theory propounded would have almost resulted in ostracism, but today we find the adherents to that theory not quite so enthusiastic, and we find such authorities as Axenfeldt, John W. H. Eyre, L. V. Haman, George S. Derby, and others reporting unfavorably upon this hypothesis.

However, during this work innumerable avenues for further endeavor opened up that appeared promising. The factor of topical therapy impressed me as irrational and based upon pure empiricism, the variety of drugs used at the present time and in the past is, I believe, in itself proof of the failure of topical treatment. Therefore, this phase of the question had to be dealt with and eliminated first, for surely all these drugs could not be of real value in one disease. This question we settled to our satisfaction, in that every drug used was individually tested over a period of time in a series of cases and we were able to state that no drug had any real influence upon the disease *per se*, except atropin. Corneal ulcers are not considered as they are not a part of this disease but a complication due to a secondary infection. It is interesting to note that while the corneal phase of this disease does not respond to our classic bactericidal treatment, the true corneal ulcer becomes clean and covered by epithelium, that is, no longer stains, but this is as far as one can attain, for it continues to remain in a state of irritation, not unlike a nerve-ending disturbance, similar to but milder than herpes zoster ophthalmicus, until the clinical entity has run its course. In view of these results all drugs were discarded and topical treatment limited to the use of atropin, regardless of whether the cornea, conjunctiva or limbus was involved.

The evidence of the ineffectiveness of topical therapy clearly demonstrates the condition under consideration not to be a real eye disease, but a local manifestation of a systemic disturbance. This being a fact, the only other avenue for search was in the field of general medicine. The many conditions thought to bear some relation to this array of symptoms were gone over with the hope of finding some tangible basis for a working hypothesis.

We therefore decided to make a general physical examination in a series of cases, tabulating all the findings carefully in the hope that a painstaking analysis of such a table might give some clue that would be of real value. This was accomplished as carefully as it is possible in an out-clinic department with the following results:

The age of the patient shows that the greatest prevalence of the disease is between the second and twelfth years of life. Patients under two years of life are seen very rarely. Seventy-five per cent of the children were fairly well nourished. It is noteworthy that some of the most severe cases seen were in plump, ruddy children, to all appearances presenting an excellent degree of health.

This does not bear out the claims made by certain authors that phlyctenular disease is usually observed in anemic children with what is best described as a tuberculous habitus. The sexes were equally represented. The majority of the patients belong to the lower classes, where the families were large, in which the environment from a hygenic standpoint was not wholly bad, except in so far as individual parental control was exceedingly limited, the children being left almost entirely to their own resources. Adenopathy was manifest in the submaxillary, anterior and posterior cervical regions, the lymph glands being plainly discernable on palpation, but rarely painful on pressure. The tonsils and adenoids were frequently enlarged and diseased. Skin and hair were characteristically dry. Erosions around the nostrils and behind the ears, especially where the two skin surfaces come in contact, were seen frequently. These erosions

which proved to be an intertrigenous eczema were often observed also in the inguinal folds, especially in very young children, Seborrhea of the scalp was not infrequent in the same class of children. A history of cough and loss of weight was seldom secured. Urinalysis, with special reference to the presence of albumin, sugar and indican invariably gave negative results.

The routine eye examinations for this class of cases revealed nothing unusual as regards the clinical picture of the conjunctiva, limbus or cornea and presented no statistic data of special significance.

A summary of this table discloses the facts that exclusive of the lymph adenopthy which, in my opinion, is due to bad teeth, diseased tonsils and adenoids, seborrhea and other eczematous conditions, we have the clinical signs and symptoms resolving themselves into affections of tissues of epiblastic origin, e. g., a dry skin, weeping eczema around the nostrils, back of the ears and in the inguinal folds, the hair being particularly dry, giving to the sense of touch the idea of being artificial.

We have then the following possible factors to sustain the tubercular theory, lymph adenopathy, which I am sure can be ruled out upon the basis before stated, absence of temperature, loss of weight and other signs and symptoms usually associated with tuberculosis. Then we have left only the positive Von Pirquet reaction that some observers still continue to lay great stress upon. I have made a great many of these tests upon those afflicted with phlyctenular disease and found a positive reaction in fully 98 per cent. of the cases after the second year of life. I then made this test in a series of eye cases as they came into the clinic, irrespective of age or affliction and found the same results. Occasionally we would find a negative reaction in an active tubercular process, e. g. a Pott's disease. This fact has been reported by others and was the subject of marked discussion about eight years ago.

I do not believe that anyone today is justified in saying that a condition is due to tuberculosis on the mere positive Von Pirquet reaction; Dr. Eyre long ago made a very definite statement on that phase of the question.

An analysis of the foregoing signs and symptoms, the results obtained with the anti-tubercular therapy over a long period by myself and many others reported in the literature, seems to me almost definite proof of the non-tubercular etiology of this condition.

I am willing to concede at this time a corneoscleral disease that closely resembles ophthalmia eczematosa, that may be due to the tubercle bacillus. I am unable at this time to describe it in sufficient detail to make a positive differential diagnosis. The papule in this condition does not alone involve the epithelium, but also the deeper structures of the cornea, they do not break down so readily and the deeper vessels are engorged, and it is frequently difficult to differentiate from interstitial keratitis. This disease is seen in about 2 per cent. of the cases.

As to other bacteria, probably playing an important part in this disease, we can say the following: The phlyctenule before rupture is absolutely sterile. This has been proven by reliable workers. Personally, I have tried to obtain cultures from these papules and found it a very difficult problem; owing to the inability to sustain an uncontaminated field, my findings in these cultures disclosed the same micro-organisms commonly seen in the flora of all conjunctival sacs. The role played by these organisms is in the production of complications, e. g., as ulcers of the cornea and conjuctiva only.

The tonsil and adenoid question was thoroughly tried out, and a summary of these results disclosed the usual improvement seen following the radical enucleation of these parts, but it did not impress one as having a real influence upon the disease under discussion.

The intestinal putrefaction theory seemed the most attractive one to next interest us. This was carefully studied, but the histories of the cases, the urinalysis and the observation of the stools of these patients gave us no evidence of such a condition existing. However, the disease was treated under the assumption of such a condition existing. And series after series were treated by the different methods suggested by gastro-intestinal workers. The final analysis of this work found us in a position to state that of all medicaments used calomel yielded the best results.

Thus we arrived by a process of elimination to the conclusion that atropin locally was the only drug of any real value to the eye condition

and calomel internally had the most favorable influence in the way of systemic medication. In this state we remained for some time; the results obtained were as good as under any previous form of management. We could at least now say that we had simplified the medication.

The next logical step that appealed to us was in the direction of the diet, for intestinal putrefaction is improved but not cured by drugs alone.

On questioning the parents of the afflicted children the astounding fact was learned that fully 98 per cent. of the patients consumed an excessive amount of carbohydrates, especially in the form of sweets. At first we were inclined to pay scant attention to this feature until further questioning elicited the statement that these very children had little desire for plain, nutritious food. With a view of ascertaining whether this faulty diet had any decisive influence on phlyctenular disease, a practically carbohydrate free diet was instituted in a series of cases as the single and sole method of treatment, excluding even the topical use of atropin, with the gratifying result that the children so treated did far better than with calomel and atropin alone. Later medication and diet were combined with exceedingly satisfactory results.

The diet prescribed consisted of plain food, e. g. bread, butter, milk and eggs. This dietary cannot be regarded as ideal, but was the best available for external reasons.

These results were so striking that many interested who were familiar with this series of experiments admitted the striking improvements but questioned the direct relation of the dietary to the favorable phenomena. Convinced that the dietetic regimen alone and unaided to be the principal cause of the favorable course of this disease, resort was had to another series of experiments which left no room for further doubt. Taking a number of children whose affections had been under complete control, the dietetic regimen was abandoned, and foods rich in carbohydrates allowed. Almost at once this disease reappeared with the accuity of a pronounced relapse. These experiments were repeated at frequent intervals and invariably yielded the same results.

The experience became so convincing that whenever patients presented themselves with a relapse faulty diet was assumed and invariably admitted. Again and again the observation was made that relapse occurred when the parents ceased to exercise control over their children, enabling the latter to yield to the temptation to consume sweets. Naturally the question suggested itself whether the dietetic error, shown to exercise a decided influence on the cause of the disease, was to be sought in the carbohydrates *per se*, or merely in the sweets. To answer this question resort was had to a control test by the administration of ample doses of saccharine as a substitute for these sweets. It was now uniformly observed that this coal tar product did not in the least show any unfavorable influence on the ocular manifestations, proving conclusively that the carbohydrates per se must be held responsible.

Whether the unfavorable influence of carbohydrates is to be ascribed to a faulty metabolism, or to a limited ability of assimilation of the carbohydrates and the excess probably undergoing chemic changes, which in turn yielding toxic or irritating agents sufficiently effective to produce eczematosa manifestations must for the present remain an open question.

As regards the modus operandi of whatever processes are responsible we must look to the laboratory for an explanation.

We now had established three distinct avenues of approach. Atropin locally, calomel internally and a diet free of carbohydrates. Here we remained for sometime, treating case after case with much better results than had heretofore been obtained and after a long period of time had elapsed we could make the following deductions.

1. Adults responded very rapidly upon the dietary regimen alone, particularly after the 18th year, without relapse.

2. Children between the ages of three and seven were the most obstinate, particularly where the families were large and individual attention was absolutely impossible. It was noted in these obstinate cases that the pupils were difficult of dilatation, although the parents claimed the atropin was instilled as directed. We therefore, resorted to the use of four per cent. atropin ointment and observed as soon as we were able to produce a complete dilatation of the pupil, the symptoms abated in intensity. The results were so striking that we questioned the efficacy of the

administration of any other drug internally, but could not intelligently answer why atropin influenced the symptoms so favorably.

The exudative diathesis theory as propounded by Czerny was suggested, that is the external phenomena as presented by ophthalmia eczematosa were probably a part of the picture the result of irritability or hypertonia of the vagus system.

If this be so then atropin is therapeutically the drug best suited and not calomel. Accordingly calomel was abandoned and atropin administered internally instead in a series of cases, as suggested by the practice of Krasnogorkis and Leopold, who prescribe a solution of atropin, 1 gr. to the ounce of water, in doses of three drops every three hours and daily increased the dose by one drop until the physiological effect is reached. A number of patients were treated by this method without stopping the topical instillations of atropin and restriction of diet.

The tolerance manifested by these children for this powerful drug is quite remarkable, some consuming as high as one-third of a grain daily.

This form of treatment has now been extensively followed for the past eighteen months and the results have been so greatly superior to any routine followed heretofore that basing on the present experience, one cannot but say that absolute control of the symptoms of phlyctenular disease is assured by it.

But it must be emphasized that while atropin best controls the symptoms permanence of therapeutic results will depend on a strict adherence to a suitable diet even long after all the symptoms have disappeared.

### SUMMARY.

1. Ophthalmia eczematosa or phlyctenular disease is not a true pathologic entity, but a local manifestation of a systemic disturbance.

2. The tubercular theory in my opinion can be excluded with certainty as we have nothing to sustain such a hypothesis but the Von Pirquet reaction.

3. Ophthalmia eczematosa is in all probability one of the expressions of vagus system irritability produced by some toxic agent, resulting from faulty carbohydrate chemism.

4. Correction of the chemism by carbohydrate free diet and control of the vagus hypertonia through the topical and internal use of atropin over a period long after all signs and symptoms have disappeared yield the best results.

### DISCUSSION

Dr. H. H. Brown thought the one point Dr. Goldenburg brought out of practical importance to us, is that ophthalmia eczematosa is not a disease entity, but that it is a local manifestation of a systemic or general disturbance.

He has long discarded as useless any line of treatment for phlyctenular disease of the conjunctiva that does not give first importance to the alimentary canal. Whether this has come as a result of experience or what not, it is his belief that any treatment directed to phlyctenular diseases of the conjunctiva pure and simple which does not give first aid to the correction of the alimentary canal is wrong, and you will meet disappointment ultimately in your therapeutic efforts.

He is further convinced, from the lack of clinical findings and the result of our very best therapeutical efforts, that phlyctenular diseases are not due in the gross to tuberculosis causes. A certain per cent. of tubercular depletion of the system may furnish a sinus for the development of these conditions and render a possible delay in the successful issue of the treatment, but that phlyctenular diseases of the conjunctiva or disease, properly speaking, of the conjunctiva is tubercular in character he is loath to admit.

The routine treatment which has yielded best in his hands is, first, immediate attention to the alimentary canal, and routinely he prescribes calomel. He is equally confident that the close following and the continuation of castor oil, and a very careful and rigid and restricted diet will permit many of these cases to clear up almost to complete recovery without any treatment whatever to the eye. To be sure, if there is a deeper corneal involvement, iritis, or something of the sort, we must resort to local treatment to the eye at once as well as intestinal—but here is the milk of the cocoanut—clean the intestinal tract, stimulate hepatic sluggishness, keep the intestinal tract clean by the proper regime of diet, best accomplished by the proper use of cooked vegetables, cereals and an abundance of vegetable and animal fats. He is very fond of an abundance of olive oil in all of these cases, after the intestinal tract is cleaned, and has found that the suggestion of eggs, which is universal, has in many instances proved rather disappointing. Many of these little stomachs will not tolerate the very nicest emulsion of cod liver oil which is at the head of all oils; in the absence of that, give olive oil.

He has not found that atropin has done the work, because he has used it always conjointly with free elimination and proper alimentation. He is convinced that the proper hygienic surroundings and dietetic care of the little sufferer from phlyctenular conjunctivitis will yield more than any other one agent. He believes that a hypersensitiveness or an irritation of the vagus system producing a disturbance in the cen-

tral organism and thus exciting a local disturbance in the eye, is the most rational explanation that has been advanced for phylctenular disease of the conjunctiva.

DR. FAITH was not thoroughly convinced that there is only one thing that causes phylctenular conjunctivitis. The observations of equally careful men have indicated that there may be other sources besides the gastro-intestinal tract. Whether we know just exactly what takes place in the intestinal tract, whether the carbohydrate diet favors the development of various organisms in the intestinal tract, or whether this is an absorption of an incompletely changed substance from the intestinal tract in the blood stream, of course, is a question that further investigation will have to prove.

He does not believe it is due to tuberculosis in the cornea.

Dr. Goldenburg: I might say in closing, that when I first became interested in this work, some eight years ago, it was not the disease per se that attracted me, but the supposed etiology. I was convinced at that time that it was not due to the tubercle bacillus or its toxine, and at the suggestion of Dr. William H. Wilder, then my chief, I started out to prove the fallacy of this theory. I soon found that the undertaking was a big one, it lead to fields far removed from Ophthalmology; but I believe I know more about this condition than I did before, I feel sure that I have at least graduated from pure empiricism.

This work is the result of about 800 cases that have been carefully studied. Dermotologists, dietitians and pediatericians have been freely consulted and to the latter, in particular, I am deeply indebted, for they have made dietary investigations of the young that are valuable. Finkelstein (Pediatrician) states that an alimentary intoxication can be due to a carbohydrate intolerance. He again states that fermenting lactose injures the permeability of the intestinal wall and permits the absorption of salts in abnormal kind or quantity, and that these salts either alone or in combination with sugar, produce poisons.

As to the diet I have outlined I am sure it is not ideal. I am aware that both bread and milk contain carbohydrates, but those working in a large out-clinic department can appreciate the difficult problem of maintaining a definite diet that can be followed by such patients. To arrive at an ideal diet takes a very long time and necessitates a great deal of laboratory work which unfortunately I have not been able to perform in the past year.

As to the exudative diathesis theory, I do not make the statement that it is absolutely due to that, but our signs and symptoms and the response to the atropine treatment fits in beautifully with that theory. I am, however, convinced beyond any doubt that this disease or syndrome is not bacteria.

## INCIPIENT SQUINT.*

E. J. GARDINER, A. B., M. D.
CHICAGO.

When I submitted the title of this paper to your president, he asked me to dwell particularly on the etiology and the treatment of squint. In complying with his request, I shall endeavor to limit my remarks to those phases of the subject that are of special interest to the general practitioner.

In order better to understand the etiology of squint, it will be necessary briefly to review the evolution of the visual functions.

No department of ophthalmology offers a more fascinating and profitable field for investigation. Here the initial steps of physiologic and psychologic evolution are taken openly hand in hand, enabling the observer to note the development of the visual sense from pure sensation to perception, from attention to discrimination, as *pari pasu*, the afferent currents, establishing habit in the cerebral centers, evolve the marvelous coordination of the ocular musculature and cultivate the fusion faculty.

Psychologists tell us that pure sensations are possible only in the very beginning of life. We often wonder, as we watch a new-born babe swaying its eyes from side to side, with vacant stare, what its visual sensations are, how much it really sees, in a word, how much of the visual faculty is innate.

No one has done more painstaking work along these lines than Mr. Claude Worth, F. R. C. S., who, with characteristic British thoroughness, devoted the major part of a year to experimenting on infants' eyes in two large English crêches. He has reported the results of these investigations in his book on Squint, from which I shall quote freely because in it he gives a satisfactory answer to our question:

He found that from earliest infancy the pupillary light reflex and the fixation reflex are present, showing that some degree of vision of each eye and the preponderance of the macula are innate.

If in a darkened room, the light of a candle be suddenly thrown from an ophthalmoscope mirror into the eye of an infant only a few hours old, the eye will immediately fix the mirror. This fixation is purely reflex and is only maintained for an instant. During the first few days of life the infant cannot fix a steady light,

*Read before the North Side Branch, Chicago Medical Society, April 12, 1918.

but by suddenly flashing the light into the eye, this reflex fixation can be repeatedly obtained.

Most infants at the end of two or three weeks will fix the mirror steadily for several seconds with one or the other eye, but will not converge the visual axes in looking at a near object.

If at the end of five or six weeks the reflection of a light held over the head of the child is thrown on the eyes with an ophthalmoscope, it will be noticed that the reflections on the child's corneæ are symmetrical, "showing that the child is fixing the mirror binocularly. But now and then, one eye will turn a little inwards or more rarely outwards."

Thus by means of its congenital afferent mechanism the babe receives a series of sensations followed by automatic reflexes which habituate the efferent or motor nerves of the eye muscles to act together.

During the first few months of life the movements of the eye are uncertain, not being completely controlled by the higher centers of the brain. The eyes move more or less together, but the slightest gastric or other disturbance will cause one or the other to deviate. It is interesting to note that this lack of co-ordination is confined to movements in the horizontal plane. The conjugation of the eyes for vertical movements is well developed from earliest infancy. It is hardly possible that any degree of binocular vision can be present with such imperfect co-ordination of the eyes in the horizontal plane.

At the age of six months, if the child's attention is engaged by a bright object of absorbing interest, it is possible for the person nursing the child to slip a large prism before one of his eyes without his appearing to notice it. A prism displaces the image of an object towards its apex; therefore, if binocular vision is to be maintained the eye must rotate in the direction of the apex of the prism. If a prism of 12 degrees is slipped before the child's eyes with the apex towards the nose, the eye will in many cases make a slight inward rotation, showing that the child has some sort of binocular vision. In some cases, however, while the naked eye continues to be steadily directed towards the object, the eye behind the prism makes no inward rotation. The vision of this eye is probably suppressed, "a significant fact as we shall later see, for" they resemble certain cases of occasional squint in which binocular vision is present when the eyes are straight, but suppression of the deviating eye takes place when the squint is manifest.

After the end of the first year a child who allows one to make the experiment with the prism apex turned inwards, will almost always turn in the eye in order to blend the images.

With some of these children Worth experimented by placing the apex of the prism up or down. Not being able to overcome so strong a prism with the superior and inferior recti, the children manifested decided signs of disapproval, and tried to overcome the difficulty by screwing up the eyes and turning the head, proving that at this age a child already suffers from diplopia being no longer able to suppress the vision of one eye.

The results of fusion training in the case of squinters would seem to show that the fusion faculty normally reaches its full development before the end of the sixth year.

Of this fusion faculty, which is a purely psychical function and plays a most important rôle in the etiology of squint, three grades are recognized.

1. *Simultaneous macular perception.* In which the patient "sees devices in a stereoscope as two separate pictures which form one only when they are put in certain relative positions corresponding to the directions independently assumed by the visual axes. The *desire* for binocular vision is absent, so that no effort will be made to maintain fusion."

2. *True fusion with some amplitude.* The patient not only fuses the retinal images of the two eyes, but he can make some effort to maintain fusion. If pictures in the stereoscope that have been fused are separated or brought together, the eyes to a certain extent will follow them and keep them fused.

3. *Sense of perspective.* "The two eyes see from different points of view. In looking at any solid object, such as a pillar . . . the right eye will see more of the right side and the left more of the left side. In the slightly dissimilar pictures thus focussed on the retinæ the points of difference are not suppressed, as in the case of a person having only the second grade, neither is the observer conscious of diplopia. The psychical blending of the two slightly dissimilar sets of visual impressions enables him to appreciate the solidity of surrounding objects and assists in his judgment of their relative distances."

"There is a wide gap between grades 1 and 2. A patient, however, who has grade 2 usually acquires the third grade also."

I might say that this 3rd grade of fusion is one of the requirements in men applying for the aviation service.

Quite as important as the grade of the fusion faculty is its intensity. A person may in favorable circumstances attain the highest degree of binoc-

ular vision, but if the intensity is slight, in unfavorable circumstances, he easily abandons the effort and uses one eye only. In a person with fully developed fusion sense, the desire for binocular vision will be so intense that nothing will force him to abandon it when both eyes are open.

We may add as a corollary that when each eye has the power of seeing, but binocular vision is absent, one of two conditions must be present. First, the mind must be conscious of two sets of impressions received from the two eyes—diplopia, or, second, the mind takes note of the impression received from one eye, and ignores the one received from the other—suppression.

We are now prepared to undertake the inquiry into the etiology of squint. Strictly speaking, squint is a symptom of a complex of which the essential conditions are:

1. An abnormal convergence of the visual axes;
2. A defect in the fusion faculty.

Among the concomitant conditions we find—

A. Suppression of the image of the deviating eye.

B. Acquired amblyopia of the deviating eye due to suppression.

C. Rarely, slight congenital amblyopia.

D. There is nearly always a refractive error; usually hypermetropia or hypermetropic astigmatism.

As in this paper I shall deal exclusively with concomitant convergent squint, and as in the vast majority of cases hypermetropia or hypermetropic astigmatism is the disturbing element, it behooves us to inquire how the disturbance is occasioned.

When normal eyes are fixed on a distant object, the two images are focused exactly on the yellow spots of the two eyes and the visual axes are parallel. If the object is gradually brought closer to the eyes the muscle of accommodation begins to act in order to keep the focus distinct, and the internal recti begin their function, turning the eyes inwards towards the object, so that the images will continue to fall on the two maculæ. The function of accommodation and that of convergence are intimately associated. If we look at an object situated one meter from the eye we use one diopter of accommodation and converge to one meter (one meter angle). If the object is brought to point 25 centimeters from the eye, we accommodate 4 diopters and converge 4 meter angles.

Now the hypermetrope has to accommodate distinctly to see objects at a long distance. For instance; a hyperope of 3 D. has to accommodate 3 D. in order to see an object at a great distance. With this amount of accommodation is associated a convergence of 3 M. A., a point 33 centimeters in front of his eyes. It is obvious that he must either give up his accommodation and not see distinctly, or dissociate his convergence from his accommodation, otherwise, the object would appear double. Many persons are able to dissociate their convergence to a considerable extent from their accommodation, but others find it impossible to separate these functions sufficiently to maintain single binocular vision.

You can now readily understand the difficulties experienced by a child with hypermetropic eyes and a limited power to dissociate convergence from accommodation. Instinct prompts it to strive for distinct images, accommodation is brought into action, concurrently oer convergence ensues, diplopia results, and the struggle is on. If the fusion sense is absent or weak there is nothing to maintain the proper muscular coordination. One eye deviates inwards, its image is suppressed; the initial step of squint is taken When the child is not looking at anything in particular, the eyes straighten, but the deviation reappears the moment any effort is made to see distinctly. This stage may be called incipient squint.* From the repeated suppression of images the deviating eye soon loses its power to see distinctly. Finally, amblyopia becomes more marked, the eye habitually turns in and squint is permanently established.

It is to be understood that this paper deals exclusively with cases of ordinary concomitant squint developed in the usual way. The time limit prevents any notice of alternating squint and the interesting forms of true occasional

*This stage is usually called "periodic squint." Worth has given it the name of "premonitory occasional squint." This term is confusing, especially so, as he recognizes two varieties of occasional squint, "premonitory occasional"; and "true occasional." The former is the precursor of constant squint, while the latter designates various anomalies of the visual axes, some of which, as he candidly admits, "are not squints at all, in the strict sense of the word." It is not my intention to suggest the name, incipient squint, for the generally accepted term, periodic squint, but as I am addressing a gathering of general practitioners to emphasize the importance of considering every deviation of the visual axes as a *probable* precursor of permanent squint, I have thought that the word incipient, because of its connotation, more convincingly sounds the note of warning.

squint, nor is it possible to discuss those conditions that precipitate but are *not* causes of squint. But let me reiterate the important fact that squint usually develops very early in life and that the essential requisite to obtain a *cure* is to get the case early enough; if possible, in the incipient stage and certainly before the squint has become definitely established. A great burden of responsibility rests upon the shoulders of the general practitioner, for he has the opportunity of discovering the first symptoms of the disorder. Give us the children with incipient or recently established squint and we will return them to you with straight eyes and with single binocular vision.

Instructive in this connection is Worth's table of ages at which the anomaly appeared in 1,017 cases of unilateral squint.

| | Cases |
|---|---|
| Before 1 year | 134 |
| Between 1 and 2 years | 186 |
| Between 2 and 3 years | 247 |
| Between 3 and 4 years | 189 |
| Between 4 and 5 years | 113 |
| Between 5 and 6 years | 73 |
| After 6 years | 75 |

It is an interesting fact that children who begin to squint after they are 6 years old seldom develop a high degree of amblyopia in the deviating eye.

*Treatment.* The four objectives of treatment are: correction of the error of refraction; prevention of the deterioration in vision of the deviating eye; training of the fusion sense; restoration of the visual axes to their normal relations.

Before commencing the treatment of a case, it is, of course, necessary to measure the degree of deviation and if possible, the visual acuity of each eye.

Measurement of the degrees of deviation. I shall describe only the easiest method because an ophthalmoscope is the only instrument needed, the technique is simple and the method yields satisfactory results even in children one year old.

Have a nurse hold the child on her lap and steady its head. Place a lighted candle or a ground glass electric bulb over and behind the child's face. Then, sitting in front of the patient, hold an ophthalmoscope in the median line, two feet from its eyes, and in such a position that the light shall be reflected in one of its eyes. This operation will attract the child's attention and make it look at the light. Note the place on the cornea where the image is formed. If the child is looking directly at the light, the reflection will be seen at a point a little to the nasal side of the cornea. Now rotate the mirror so as to flash the light in the other eye. If there is no squint the image will occupy a position identical to that which it occupied in the other eye. If there is convergent squint, the image will be seen further towards the temporal margin of the cornea. If it reaches the outer margin of the cornea, there is a convergence of about 45°, if it touches the outer margin of a moderately dilated pupil, the deviation amounts to about 15°.

Testing the visual acuity. If the child knows its letters Snellen's test types are used. In younger children I use a rubber ball two inches in diameter, a golf ball and a marble one-half inch in diameter.

For this test the child must be able to walk or creep. First, in order to interest the little one and gain its confidence the squinting eye is bandaged. The marble is then rolled along the floor 20 feet away and the child is told to get it. The experienced observer can tell by the way that the little patient starts on its errand whether or not the marble is seen. If it is seen, the vision is normal; 20/20. If it is not seen, the experiment is repeated with the golf ball, equivalent to about 20/50. If the child again fails, the rubber ball, equivalent to 20/100, is tried. As the straight eye has, as a rule, pretty good vision, it is seldom necessary to go beyond the golf ball test. Then the good eye is covered and the test is repeated. Usually a marked difference will be immediately apparent in the way that the child handles itself. Frequently it will strenuously object to having the good eye covered and when it is finally persuaded to go on with the game, it will not make a move until the rubber ball is used, and then it will advance with a marked uncertainty of orientation. If the ball is not seen at twenty feet it is gradually brought nearer until it is seen, the new distance expressed in feet becomes the numerator of the fraction. If the ball is first seen at ten feet, the vision will equal $10/100 = 1/10$.

The measurement of the error of refraction must, in young children, be done with the ophthal-

moscope and under atropine mydriasis. Either retinoscopy or the direct method with the ophthalmoscope may be employed; personally I prefer the latter. Glasses fully correcting any existing astigmatism and correcting the hypermetropia to within at least a half diopter of the total amount, should be prescribed for constant use. This is the only means at our disposal for restoring the normal relations between accommodation and convergence.

I have been asked a number of times whether I would put glasses on a baby, and the tone of the questioners implied that an affirmative answer would convict me of brutality. My answer is, yes. I have put glasses on a baby 18 months old. The mother wept when I announced the decision, but smiled a week later when she informed me that baby cried for her glasses when they were taken off. That baby's left eye turned in 35°. Today she is a pretty little miss, with straight eyes, single binocular vision, 3rd grade of fusion and 20/20 in each eye. Furthermore, her eyes are straight without glasses, but she prefers to wear them for comfort.

In most cases atropine mydriasis combined with the constant use of glasses materially diminishes the amount of squint. But this is not enough; attention must now be directed to the prevention of deterioration of vision in the deviating eye. For this purpose one of two methods may be used at home; covering the good eye for a certain number of hours a day—a process which children violently oppose and seldom practice conscientiously—or, keeping up the instillations of atropine in the good eye alone. In this way the good eye is used for distance while the squinting eye is forced into use for all purposes requiring accommodation. This is an excellent method, but there are certain precautions that must be taken while it is in operation, these, however, would not interest the general practitioner.

Training the fusion sense. This should always be done by the oculist, and it is a job that demands infinite patience and unfaltering persistency. To oblige a child that does not see binocularly, and does not care to see binocularly, to visualize an image with an amblyopic eye, is an undertaking requiring the patience of Job.

For this purpose I use Worth's amblyoscope. I shall briefly describe the manner in which it is used, but if any of you wish a demonstration, I shall be at you rservice after the other papers are read. The valuable features of this instrument are, that the tubes can be adjusted to suit the angle of deviation up to 60° of convergence, and that it is possible, by intensifying the illumination of the object corresponding to the amblyopic eye, to force the child to see it.

When the child has been trained to see simultaneously the images in each eye, I prefer to use the ordinary stereoscope with Kroll's movable devices and later with Javal's fusion pictures. The greater number of devices enable the operator to keep the patient interested; a great desideratum in this tedious process.

If the patient comes under treatment early enough these methods, if persistently followed, will accomplish a complete cure in the vast mojority of cases. But if all of them fail to restore the visual axes to their normal relations, then, operative interference may be considered. More than twenty years ago I read a paper before the Section on Ophthalmology of the American Medical Association, in which under the title, "The Non-Surgical Treatment of Strabismus Convergens," I discussed the advantages of the non-surgical method and emphasized the dangers attending hasty surgical interference. Although I was not guilty of promulgating any startling doctrines, and my conclusions were based on carefully-tabulated statistics, I came away with the feeling that some of my confreres considered me somewhat of a crank.

Be that as it may, methods of treating squint have materially changed since those days. The hasty, full tenotomy has ceased to be performed. Optical correction combined with orthoptic exercises are usually given a fairly thorough trial and when surgical interference is deemed necessary, the more scientific and safer partial tenotomies and advancements are practiced. But notwithstanding the better chances of success offered by these conservative operations, it must not be forgotten that when a high degree of amblyopia exists in one eye and the fusion sense is absent, even these improved methods are apt to be disappointing, both to the patient and to the surgeon. The only way to insure good results is to start the treatment when the first symptoms of squint make their appearance.

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society under the direction of the Publication Committee of the Council.



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NOVEMBER, 1918


## Editorial

### THE INFLUENZA EPIDEMIC.

Like all other things, the epidemic of influenza has an end and is now rapidly losing its epidemicity. Never in the history of the present generation has the world had a more widely spread infection or one affecting so large a percentage of the population. The death rate in many places has been frightful.

Illinois, perhaps, has not suffered quite so severely as some other states; and with few exceptions the situation is assuming normal proportions within our borders again. The number of cases throughout the state is not yet reported, and naturally a correct report will be impossible.

In Chicago from September 14th to November 2nd, 35,634 cases of influenza and 11,721 of pneumonias were reported. The number of cases reported, particularly of influenza, probably does not nearly enumerate them, as undoubtedly many cases were not reported. Many, no doubt, did not see a physician. The pneumonia cases were probably all or nearly all due to the influenza, or were pure influenza pneumonias from the beginning; but it will be readily seen that the number of pneumonias are way out of proportion to the total number reported. The deaths recorded in the same period were: influenza, 4,739; pneumonia, 2,965; all causes, 12,051.

While the epidemic feature is probably over, the probability is that many sporadic cases will appear during the entire winter, and while we may not look for such severe or fatal forms, still occasionally they too may occur. Many interesting questions relative to the disease are yet to be answered. The diagnosis is about entirely clinical. The treatment is symptomatic with a possible exception of the use of vaccines. The pneumonias are unlike other pneumonias, and in the main the course of the pneumonia is different.

An important element is still before us; namely, how many of the influenza victims will develop tuberculosis, or how many old quiescent tuberculous cases will develop activity? There seem to be an exceedingly large number of empyemas resulting; also a large number of pneumonias not undergoing resolution. We predict an unusual number of tuberculous cases will soon appear, and physicians should be particularly careful about diagnosis in all pulmonary cases. Physicians should be especially careful in discharging as cured those cases wherein lung conditions do not clear up readily.

We hope that now a more careful and scientific study of the disease may be made, and that something definite and rational may come out of the many forms of treatment. So far advanced medical treatment has been entirely symptomatic, and while it has ameliorated conditions, it has been neither preventative nor curative. Vaccines

and sera have been used extensively with varying success or no success at all. There seems to be sufficient evidence in favor of these agents to warrant a further study of their employment.

## DIAGNOSIS OF PULMONARY TUBERCULOSIS

On another page is found an article written by Captain R. S. Berghoff, on the diagnosis of pulmonary tuberculosis in the Army. We think every medical man on an examining board should read this article carefully. There has been so much discussion by medical men as to the acceptance or rejection of men into the Army who were supposed to be tuberculous that much confusion has arisen.

Captain Berghoff was a member of the first board appointed to examine for tuberculosis in the Army, and has been in that service since, which has given him a vast experience in this work. Formerly he was in the tuberculosis dispensary service of Chicago. He has seen many of these men in camp, and has had opportunity to see how they have stood training. If one will read his paper carefully he will get a better idea of cases which the Government will accept for training.

There is an idea prevalent among the laity, and to a less extent among physicians, that if a man has ever had a pulmonary lesion he is not acceptable for Army service. Such is far from the facts. As Captain Berghoff plainly states, many of these men having old healed lesions, if not too extensive, stand the training well and are apparently benefited. It is the case showing activity which must be rejected, both on his own account and particularly on account of his comrades.

## PROGRAM FOR EYE, EAR, NOSE AND THROAT SECTION.

The program for the Eye, Ear, Nose and Throat Section, of the Illinois State Medical Society, which meets at Peoria, Ill., May 20, 21 and 22, 1919, is now being arranged.

We wish to extend an invitation to all of the physicians of the state who are members of the Illinois State Medical Society, and who are making a specialty of the eye, ear, nose or throat, to take part in the meeting.

You are urgently requested to be present and take part in this great meeting, which has proven an inspiration to all and amply repaid those who have made the effort to attend heretofore.

The society extends to you an earnest invitation to attend and present a paper on some subject pertaining to the eye, ear, nose or throat, or open the discussion on the paper of some other essayist, or join in the general discussion as you prefer. The presentation of any new instruments or clinical cases is solicited.

A splendid banquet will be given in the vening and any member who will kindly consent to take part in the after-dinner speaking or entertainment is requested to notify the officers.

Kindly notify the secretary or chairman as soon as possible if you will take part in any of the above features of the meeting.

DR. FRANK ALLPORT, Secretary,
7 West Madison St.,
Chicago, Ill.

DR. WESLEY HAMILTON PECK,
Chairman,
31 North State St., Chicago, Ill.

## VOLUNTEER MEDICAL SERVICE CORPS

We are publishing in the column of correspondence a letter from Dr. A. M. Corwin, which needs neither explanation nor comment. We believe the JOURNAL of the American Medical Association should have published it, but they have refused, and certainly Dr. Corwin has the right to be heard.

The Volunteer Medical Service Corps was authorized by the Council of National Defense on January 31, 1918, and later reorganized with a central governing board consisting of Surg. General W. C. Gorgas, U. S. A., Surg. General W. C. Braisted, U. S. N., Surg. General Rupert Blue, U. S. Public Health Service, Provost Marshal General E. H. Crowder, U. S. A., and about twenty other well known physicians, including such men as Martin, McLean, Sawyer, Simpson, Billings, Vaughan, Welch and the Mayos. It has the backing of the Surgeon General's office and of President Wilson. Sufficient for its official existence.

Just and fair criticism is commendable when put both in an honest and honorable way, but it is not justifiable and savors strongly of progermanism for any organization or publication

at this critical time to condemn, ridicule or attempt to nullify orders or recommendations which come from any of the war departments, including the Surgeon's General's office or the Council of National Defense, a government commission.

We hold no brief for the organization of the Volunteer Medical Service Corps, and we do not know how much service it may be called upon to give, but since its organization had the sanction of the Surgeon General's office and of the Council of National Defense we are sorry that the representatives of an association, of which we all are members, have so far forgotten the dignity and responsibility of their position, not only to their profession but to the Government, that they may attack in so scurrilous a manner any policy which has been determined upon by the governing authorities.

## PAPER SHORTAGE

A ruling of the War Industries Board demands that all publications cut down their use of print paper. In the case of medical journals the saving must be at least ten per cent.

Perhaps this was a wise ruling. We do not believe any of these restrictions imposed by the War Departments are made until actual need of them exist. When it is necessary to impose a restriction everyone should willingly accede to the needed demands. When imposing restrictions on any commodity, because of the war necessity, such restrictions should be comprehensive, practical and logical.

There are tons of printed matter sent out by members of Congress and of the Senate, which, we venture to say, is never looked at; much of it printed on one side of the paper only. All of this reading matter, if of public interest, is abstracted by various newspapers, and the average citizen has not sufficient time nor interest to read more than the abstract. Tons of paper are littering the streets of Chicago,—sent out in the way of campaign literature and which is not read,—which not only is a waste of paper but which requires considerable labor on the part of the city to clean up.

We presume these various commissions find difficulty in making fair and practical rulings, but if newspapers, magazines and scientific or technical journals are asked to make a sacrifice, surely the sources of such large waste should be scrutinized more closely and equal restrictions imposed on all users of print paper.

Some of the restrictions placed on scientific journals seem rather harsh, and if enforced for any great length of time would work an injustice and would also inhibit the circulation of much medical information,—a result certainly not anticipated.

## MEDICO-LEGAL NOTICE

Dr. C. B. King, chairman of the Medico-Legal Committee, has accepted service with the Government, and will therefore be unable to give attention to the work of the Medico-Legal Committee.

Dr. D. R. MacMartin has been elected chairman of this committee to succeed Dr. King. County secretaries and members having malpractice suits started against them should address their communications to Dr. D. R. MacMartin, 20 West Jackson boulevard, Chicago.

## INFLUENZA SYMPOSIUM AT A. P. H. A. MEETING

The influenza epidemic will be made the most important subject of discussion at the December meeting of the American Public Health Association. Some of the questions which will be discussed are the following:

Is influenza vaccine efficacious as a prophylactic?

What type of vaccine is most useful?

Does it help as a therapeutic?

What about nose and throat sprays?

What are the results with convalescent serum?

What about the open-air treatment?

How can the health officer co-ordinate hospital, medical, health and relief agencies in similar calamities?

How can we take advantage of the epidemic for the benefit of more adequate health appropriations and better community and personal hygiene?

The detailed influenza program is not yet ready as we go to press. The rest of the program will be substantially the same as previously announced. The papers read at the meeting will be published in the *American Journal of Public Health*.

Headquarters of the meetings will be at Hotel

Morrison, Chicago; the dates, December 9-12, 1918.

The secretary of the association may be addressed at 126 Massachusetts avenue, Boston, Mass.

*American Journal of Public Health.*

## SAVING AND INVESTING

As the war goes on, unexpected avenues of saving are opened up, one after the other, by new Government restrictions. A few weeks ago some two hundred and fifty thousand Illinois owners of automobiles would have considered it impossible to do without their cars on Sunday. Then came the Government order, and suddenly everyone found that his car was a luxury and not a necessity.

Incidentally, owners of automobiles in this state are saving every Sunday at least a quarter of a million dollars in the price of gasoline alone. What they save in tires and repairs amounts to tens of thousands of dollars more.

In all Europe there is not a pleasure car in use. America has not come to that pass as yet, but the compliance with the Sunday motoring order shows that America could come to it and still not suffer a great deal.

Since the beginning of the year the War Savings Committee has been urging the people in this state to save wherever possible and to invest their savings in War Savings Stamps. If the saving brought about by the motorless Sunday were put into War Savings Stamps, that alone would add $1,000,000 a month to the sales.

Naturally the Government does not want the people to save gasoline on Sundays and then burn as much as possible during the week. If it is necessary to do without the cars on Sunday to save gasoline, it follows that it is necessary to use the cars as little as possible all week for the same purpose.

The War Savings Committee does not ask that everyone in the state lay up his car and use the money thus saved for War Savings Stamps. It merely uses this motorless Sunday as an illustration as how economies may be made in unexpected places if the people really set their minds to it, and suggests that they restrict their expenditures not only for gasoline, but for everything else that is not absolutely necessary and invest what they thus save in War Savings Stamps or other Government securities necessary for the winning of the war.

# Correspondence

## THE COUNCIL OF NATIONAL DEFENSE.

Oct. 15, 1918.

*To the Editor of The American Medical Association:*

DEAR SIR: Unless all signs fail, "there is a scrap on." And really, how drab would be the world without a touch of red blooded discussion. How monotonous the life of a tomcat, if he could not interlard certain other diversions with fur-flying thrills and the excitement of dodging old shoes! And now our good friend Pusey in the JOURNAL issue of October 5th, with all claws out, has fiercely pounced upon Colonel Martin of the Council of National Defense from behind the A. M. A. fence, intent upon "mixing it."

The awful caterwauls of this pusey cat tempt us to throw something.

A few years ago we took occasion to question the architectural harmonies of a new surgical edifice, of which Dr. Martin was chief designer. The doctor took those criticisms in good part, and perhaps that stately pile, the College of Surgeons, which he helped to engineer so well, is the better for our democratic suggestions.

But these recent personal hostilities which some of our A. M. A. officers are stirring up toward Colonel Martin are of a different breed. This attack, in particular by Wm. Allen Pusey, president of Chicago Medical Society and treasurer of the A. M. A., decidedly proves the exception to the rule of good judgment. His attack on Martin is a pointed onslaught upon the activities of the Council of National Defense. Is that attack well advised?

We physicians have a transcendent job calling for whole-hearted, united action in support of the Government. Why then, in face of this double menace of war and epidemic disease should we indulge in petty political hair pulling and particularly in attacking the Council of National Defense?

To raise ill founded suspicion or foster personal prejudice never was so out of place as now.

Colonel Martin is accused of assuming undue authority. Pray, what essential authority does he lack? Is not the Council of National Defense founded upon act of Congress to fit a crisis? And is not his work as chairman of its general medical board highly appreciated and endorsed by the President of the United States and by the executive heads of the Army, Navy and Public Health Service as well as the Provost Marshal General? When have any of these gentlemen protested against his invaluable help in organizing the profession and his cooperative efforts with them for the public good in this time when there is more than a plenty of work for all?

Is it possible that they have delegated to the president of Chicago Medical Society and treasurer of the A. M. A. the function of mauling Martin for them? Hardly.

These gentlemen are in the better business of team work to whip the Hun, and all of them are backing the plans and activities of the Council of National Defense. They are closely associated upon the same board, behind the Voluntary Medical Service Corps in its excellent purpose of classifying us doctors and putting upon definite file of individual loyalty and fitness for this or that service in preparedness. Is it possible that any of us object to such government classification in which we have a deciding voice by the very terms of the Voluntary Medical Service plan? Its very essence is that of an agreement between gentlemen. Are we afraid to strike hands with Uncle Sam upon such a basis? Of course not.

Dr. Pusey seems to imagine this voluntary body a tremendous bug-bear with Martin as its teeth. And he is apparently trying to add to his special line the perquisites of dental extractor.

Colonel Martin is accused of trying to put over his own pet scheme upon the profession. It would be well to know who originated the plan of the V. M. S. which he is perfecting before making this charge.

He is even painted as a medical political burglar about to break into 525 North Dearborn street, Chicago, and make off with us 150,000 doctors in his vest pocket. The answer is of course to laugh, altogether. He is credited with confusing the minds of doctors. We are enclosing a clean, clear cut statement by Colonel Martin regarding the Voluntary Medical Corps. It is rather unfortunate, perhaps, that the Journal of the A. M. A. has not impartially published this statement before in connection with other communications upon the subject.

In fairness to the JOURNAL and all concerned we are requesting you to publish it with our letter, that the profession may act upon their judgment of its face value, for the confusion, if it exists, comes from the smoke of suspicion, groundless alarm and one-sided propaganda, which the opposition has seen fit to use.

Surely we doctors are enough grown up to pick our own diet and if need be digest both sides of a roast, however rare or over-done.

Dr. Pusey's slurs upon the Illinois Committee of the V. M. S. are humorous though misplaced. That committee which he damns with faint praise was chosen entirely by the medical section of the Illinois Council of Defense, of which he, Pusey, is a member.

And as to newspaper publicity, why so suddenly solicitous? Who of us is thin skinned anyway (except in limiting the other fellow); who unwilling upon occasion? Would the doctor really deny these gentlemen of the committee a bit of a joy ride into public print, while he glides into news column prominence upon the smoothness of carbon dioxide snow?

We write this as one wearing at least four buttons of loyalty: First, of course, is that common button of democratic humanity, not worn upon the lapel, the significance of which we are so apt to forget; the second is the emblem of the A. M. A.; third, the sign of the fourth liberty loan; and, fourth, the button of the Voluntary Medical Service Corps.

As a member of the V. M. S. as well as the A. M. A., we are not aware of the slightest incompatibility in these two organizations; their functions are entirely different. Yes, we paid our dollar, why not? Have we not given Uncle Sam far more without thought of murmur?

Finally, should not we men at home feel proud of every physician who gives freely of his entire service to his government in such a day? Is it really a good time or a commendable thing to knock such men?

So we say, let's save our political bickerings for another time, if we must have them, and turn our whole energy to boosting all men and measures committed to the Allied victory in short order.

Yours sincerely for the V. M. S.

A. M. CORWIN, M. D.,
25 E. Washington St.,
Chicago, Ill.

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## APPRECIATION OF DR. CRAWFORD.

Rockford, Ill., October 23, 1918.

Realizing the seriousness of the epidemic in Rockford, Ill., caused by influenza and resultant pneumonia, the citizens' executive committee, composed of members of the Council of the City of Rockford, its mayor and the president and members of the Chamber of Commerce, and prominent men and women, herewith acknowl-

edge the great debt we owe to Dr. C. E. Crawford, representative of the State Board of Health, for the splendid service he has rendered in this emergency.

By this means the people of Rockford and the military element of Camp Grant desire to express their full appreciation of the services Dr. Crawford has rendered. Day and night he has devoted his time and energies to the saving of lives in this community, and it is with the deepest sense of gratitude that the community expresses through these channels its appreciation of this service. In organizing and supervising three emergency hospitals he has displayed that rare trait of human interest and supreme sacrifice characteristic of the American physician and surgeon. He has added glory not only to his own name, but to the Illinois Department of Health which he represents.

It is suggested that the Board of Supervisors of Winnebago county, the council of the City of Rockford and the authorities of Camp Grant concur in this memorial of appreciation to Dr. Crawford.

Rockford Chamber of Commerce,
JOHN H. CAMLIN, Pres.
R. D. CHAPPELL, Secy.

## Public Health

### INFLUENZA-PNEUMONIA EPIDEMIC.

IN ILLINOIS CITIES.

DEVELOPMENTS TO NOVEMBER 5, 1918.

| Cities | Population | Reported Cases | Reported Deaths |
|---|---|---|---|
| Chicago | 2,596,681 | 48,533 | 8,056 |
| Alton | 22,874 | 595 | 23 |
| Bloomington | 27,258 | 2,150 | 52 |
| Belvidere | 7,253 | 1,996 | ? |
| Belleville | 21,149 | 1,075 | 47 |
| Carmi | ..... | 800 | 1 |
| Clinton | 5,165 | 1,250 | 25 |
| Chicago Heights | 21,693 | 1,090 | 57 |
| Cicero | 30,000 | 1,647 | 109 |
| Cairo | 15,794 | 2,448 | 71 |
| Carlinville | 3,616 | 1,362 | 38 |
| Charleston | 5,884 | 2,066 | 28 |
| Decatur | 37,525 | 870 | 74 |
| Danville | 32,261 | 3,300 | 90 |
| Elgin | 28,203 | 408 | 26 |
| East St. Louis | 74,708 | 2,211 | 137 |
| Evanston | 28,591 | 3,070 | 86 |
| Eldorado | 3,336 | 783 | 12 |
| Effingham | 3,890 | 657 | 27 |
| Freeport | 19,568 | 467 | 25 |
| Harvard | 3,008 | 535 | 7 |
| Highland Park | 4,209 | 1,002 | 35 |
| Harisburg | 5,309 | 1,103 | 32 |
| Herrin | 6,861 | 1,859 | 36 |
| Havana | 3,525 | 543 | 6 |
| Jacksonville | 15,481 | 1,027 | 37 |
| Kewanee | 13,561 | 1,247 | 17 |
| Kankakee | 16,000 | 1,300 | 55 |
| LaGrange | 5,282 | 454 | 20 |
| Lake Forest | 3,349 | 701 | 9 |
| La Salle, Ogelsby, Peru | 33,399 | 1,450 | 78 |
| Momence | 2,201 | 425 | 17 |
| Mattoon | 12,582 | 604 | 24 |
| Moline | 27,451 | 648 | 46 |
| Mt. Carmel | ..... | 916 | 10 |
| North Chicago | 3,306 | 629 | 54 |
| Normal | 4,024 | 310 | 3 |
| Oak Park | 26,654 | 897 | 41 |
| Ottawa | 9,535 | 2,075 | 43 |
| Pekin | 10,823 | 1,246 | 88 |
| Peoria | 71,458 | 4,350 | 175 |
| Pontiac | 6,090 | 1,540 | 40 |
| Quincy | 36,798 | 1,730 | 70 |
| Rockford | 65,000 | 8,050 | 196 |
| Rock Island | 28,926 | 1,133 | 44 |
| Spring Valley | 7,035 | 4,110 | (?) |
| Streator | 14,304 | 1,065 | 69 |
| Sterling | 7,467 | 403 | 12 |
| Springfield | 61,120 | 5,548 | 132 |
| Watseka | 2,476 | 245 | 2 |
| Waukegan | 20,244 | 3,032 | 66 |
| Wilmette | 4,943 | 887 | 8 |

### INFLUENZA EPIDEMIC

1. In view of the present serious epidemic which is sweeping over the country, the Volunteer Medical Service Corps earnestly invites your attention to the following important action:

Urge upon the members of the Volunteer Medical Service Corps that they instruct families under their care to guard against the epidemic by:

Thorough cleanliness of houses, premises, clothing, utensils, and personal cleanliness.

Avoid stirring up dust.

Wash; scrub; flush; sprinkle; and use soap and water thoroughly.

Gargle and spray the nose and throat with an alkaline antiseptic fluid frequently.

Co-operate at once to the fullest extent with the local, State and National Boards of Health. Urge and co-operate in preparing towns and cities for the epidemic by establishing emergency hospitals in suitable buildings, by districting communities, and apportioning or dividing medical forces comprising men and women physicians and nurses so that no portion of the community is without medical care.

Circulate as thoroughly as possible and explain to the public the warning and directions printed by the United States Public Health Service and by local health authorities.

Urge the importance of fresh air and the avoidance of chill and overheat.

In fighting the epidemic, give no medicine and use no treatment which may depress the vital forces, especially the heart of the patient.

2. The Army and Navy are fighting and conquering Germans. We must fight and conquer germs without taking anything away from the Army and Navy. Don't ask the Army and Navy for medical and surgical supplies. Use simple utensils for sterilizing; the simplest kinds of beds and bedding; make your own masks and dressings, and fight for yourselves.

3. While the epidemic is on, do no surgical operations unless absolutely necessary to save life.

4. In every way in your power urge the members of the Volunteer Medical Service Corps to co-operate to the fullest extent with the United States Public Health Service and with State and local health authorities.

EDWARD P. DAVIS,
President, Volunteer Medical Service Corps.

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## ATTENTION OF THOSE INTERESTED IN HEALTH MEASURES AND HEALTH INSURANCE

The Health Insurance Commission wishes to call your attention to its public hearings to be held in Chicago, Moline, Peoria, East St. Louis, Springfield, Champaign and Danville. Dates and other information with reference to these hearings are given at the close of this communication.

The Health Insurance Commission was created by act of the General Assembly approved June 23, 1917. This act provides that the commission shall

*First*—Investigate——

(a) Sickness and accident of employees and their families not compensated by workmen's compensation.

(b) The adequacy of present methods of preventing and meeting the losses caused by such sickness or injuries, either:

1. By insurance companies.
2. By fraternal or other benefit associations.
3. By employers and employees jointly.
4. By employers alone.
5. By employees alone.
6. Or othesrwise.

(c) Such definite proposals for legislative measures to prevent and meet such losses as have been proposed in this or other states.

*Second*—Recommend ways and means for the better protection of employees from sickness and accident and their effects, and the improvement of health of employed persons and their families in the state.

*Third*—Hold public meetings in different parts of the state.

*Fourth*—Submit a full and final report to the General Assembly of 1919, including such recommendations for legislation by bill or otherwise as in its judgment may seem proper.

Among the more important subjects the commission has investigated are the following:

(1) The extent of sickness and premature death;

(2) The more important diseases and physical defects and their prevalence;

(3) The relation between occupation and disease;

(4) The extent and character of disease by communities, rural and urban, as reflected in vital statistics and reportable diseases;

(5) The economic loss due to sickness in several thousand cases;

(6) The relation between sickness and poverty and the effect of sickness upon standards of living;

(7) The causes of and responsibility for sickness;

(8) Methods of preventing disease—in a general way;

(9) The existing provision for the care of the sick—hospitals, dispensaries, sanatoria, etc.;

(10) Medical attendance, physicians' fees, etc.;

(11) Medical examination and care of school children;

(12) Provision made for medical care and financial benefits by employers, unions, fraternal organizations, foreign societies, "sick clubs," and casualty and other insurance companies;

(13) Group life and group health insurance; and

(14) Various programs, among them compulsory health insurance.

Data bearing upon these subjects have been secured from public records, by questionnaires, correspondence and conferences, and by investigations made by the Commission's agents. The Commission has had the co-operation and assistance of many persons, among state and local health officers, physicians, superintendents of hospitals and dispensaries, nurses, secretaries of charity organization societies, employers and officials of employers' associations, union officials, officers of insurance and fraternal orders, and school authorities. The Commission is under great obligation to all of these for much valuable data, an obligation all the greater because much time has been freely given when the war is making unusual demands upon the time and attention of all our citizens.

Now that its field investigations are nearing an end and it has a great variety of proposals under consideration, the Commission desires to hold public hearings from which it expects to be able to secure further data and the matured views of experienced men. Pertinent facts bearing upon the subjects coming within the scope of the Commission's investigations, and especially *constructive suggestions* with reference to *sickness, prevention* and the *reduction of the burdens connected with disease,* are desired.

The schedule of hearings is as follows:

*Chicago,* in Room 104 (North Corridor, first floor), City Hall:

Thursday, November 7:
Morning, 9:00 to 12:00;
Afternoon, 2:00 to 5:00;
Evening, 8:00.

Friday, November 8:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 6:00;
Evening, 8:00.

Saturday, November 9:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 5:00;
Evening, 8:00.

*Moline,* in Court Room, City Hall, Monday, November 11:

Morning, 9:00 to 12:00;
Afternoon, 1:30 to 4:00.

*Peoria,* in Council Chamber, City Hall, Tuesday, November 12:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 5:00;
Evening, 8:00 to 10:00.

*East St. Louis,* in City Hall, Wednesday, November 13:

Morning, 9:00 to 12:00;
Afternoon, 1:00 to 4:00.

*Springfield,* in Senate Chamber, The Capitol, Thursday, November 14:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 6:00.

*Champaign,* in Courthouse, Friday, November 15:

Morning, 9:00 to 12:00;
Afternoon, 2:00 to 6:00.

*Danville,* in Council Chamber, City Hall, Saturday, November 16:

Morning, 9:00 to 12:00;
Afternoon, 1:30 to 5:30.

The limited time available at these hearings will be divided so that representatives of all groups and types of institutions may have an adequate hearing. The Commission feels that it will be well, however, for those interested to take up this matter in an organized way and select their representatives to appear at the hearings. Of course, individuals desiring to be heard independently of any organization will be given an opportunity. The approximate time available for the representatives of each group is indicated in the accompanying letter. Will you not be good enough, as soon as you have perfected your plans for participating in the hearings, to communicate with our secretary (H. A. Millis, 402, 35 N. Dearborn Street, Chicago)?

THE HEALTH INSURANCE COMMISSION,
WILLIAM BEYE, Chairman.

Health Insurance Commission of the State of Illinois
Chicago, Illinois, Oct. 19, 1918.

THE SECRETARY OF THE MEDICAL SOCIETY:

Dear Sir: The Health Insurance Commission sends you herewith an announcement of public hearings to be held in Chicago, Moline, Peoria, East St. Louis, Springfield, Champaign and Danville. Will you not kindly bring it to the attention of the members of your organization and take such steps as are necessary to secure a proper representation of the physicians at the hearings in the several places?

As you will observe, the Commission has been investigating many subjects upon which the physicians can give expert testimony and some of which are of first importance to them. From the doctors the Commission expects much information and valuable constructive suggestions in regard to health administration, medical examination of school children, nursing, the public dispensary, occupational disease, infant welfare, and the causes of and problems connected with sickness. The physicians have also much valuable knowledge of contract practice in one connection or another. Those who are practicing in wage-earning communities are naturally interested in the subject of compulsory health insurance, a subject the Commission is required to consider and report on.

This communication is sent to each county or city medical society, to the State Medical Society and to the American Medical Association. Health work will be the subject for hearings in Chicago at the session Friday morning, November 8. The Health Departments of Chicago and neighboring cities can best be heard at that time. The evening of the same day is reserved for the practicing physicians of these same cities. It will perhaps be most satisfactory if the State Medical Society, the American Medical Association and the Chicago Medical Society co-operate in making a satisfactory arrangement for this particular session. It is desired that both the health officers and the practicing physicians of the other cities in which hearings are held and in the places nearby be properly represented at the hearings outside of Chicago. About two hours will be available in each of the six places. It is suggested that the secretary of the medical society in each county or city in which hearings are held should take up the matter with the secretaries of neighboring societies and secure a representation satisfactory to the profession. Perhaps there are important differences of opinion among physicians in regard to some of the things to be discussed. If so, it is suggested that such differences be given due consideration in selecting representatives to appear before the Commission in order that it may secure the greatest aid from the hearings. The Commission has but one interest, viz., to secure the best information, to arrive at the soundest conclusions, and to be able to offer the best recommendations for meeting the problems dealt with.

Will you not take this matter up and advise me as to the plans you develop for participation in these public hearings? As secretary of the Commission I shall be glad to answer questions or to confer with you with reference to this matter.

Very truly yours,
H. A. MILLIS,
Secretary.

# Society Proceedings

## COOK COUNTY.

### CHICAGO MEDICAL SOCIETY.

*Regular Meeting, October 9, 1918.*

1. Air in Ventricles of the Brain. (Illustrated by Lantern Slides)—Harold N. Moyer, Hollis E. Potter, Paul F. Thuresson.
2. Needs of the Medical Corps of the United States Army—Lieut. Colonel E. J. Doering, M. C.
   Discussion—Major John M. Dodson, M. C.
3. Influenza—Lieutenant Commander Owen J. Mink, Great Lakes Naval Training Station.
   Discussion—Chas. J. Whalen,
   Frederick Tice.

*Regular Meeting, October 16, 1918.*

1. What Chicago Is Doing for Her Deaf—Charles H. Long.
   Discussion—Miss Mary McCowen,
   Daniel MacMillen.
2. Improvements in the Technique of Cesarean Section—J. Clarence Webster.
   Discussion—J. B. DeLee.

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   Discussion—J. B. DeLee.

### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

The regular monthly meeting of the Chicago Laryngological and Otological Society was held on Tuesday evening, December 12, 1917, at 7:30 in the South Dining Room of the Palmer House.

The President, Dr. Stanton A. Friedberg, in the chair.

#### PRESENTATION OF CASES.

Dr. Joseph Beck exhibited the same little patient, shown at the last meeting, with dentigerous cyst. He had operated since that time and found a cyst with teeth in. It was easily peeled out without entering the antrum. The cavity was lightly drilled with a bur and subsequently bone wax was packed in fairly tight. The anterior surface of the superior maxilla was wired to the alveolus and two or three silk sutures were introduced. The wax came out gradually but suddenly a large piece was expelled and at this time the cavity was only half filled with granulation-tissue. He considered the operation a partial failure. The depression in the hard palate found before the operation still existed, but he intended to make a section in a sort of a flap and push it up and fill up the cavity. He was showing the case now so as to judge fairly how difficult it was to cure these conditions.

Dr. H. L. Pollock reported on the case of dentigerous cyst he showed at the November meeting. He had operated the previous day and removed the cyst which had filled up the entire antrum. It had absorbed the anterior wall of the antrum and on removing the sac he found that it contained the third molar. After removing the cyst he sewed up the slit and then filled up the cavity with bismuth paste. (The specimen and some stereoscopic pictures were exhibited.)

#### *Scientific Program*

Dr. John A. Cavanaugh presented a paper entitled "Lingual Abscess With Report of Two Cases."

(*Abstract*)

The author reported two cases of lingual abscess, one acute and the other chronic, seen during the past year, both on the base of the tongue. The cause was vague but he believed some form of trauma which lowered the resistance of the organ and the virulence of the invading organism to be the most logical etiological factors. Following a resume of the literature and usual findings in such cases the following case reports were given as illustrative of these two types of abscess.

On the morning of April 5, 1917, he was called to the home of Mrs. K. M., age 27 years. She was in bed in a semi-sitting position. Her color was good, but she had an expression of anxiety. Speech seemed to be difficult and breathing rather labored. Temperature, 101; pulse 120; respiration 24. No apparent swelling of the neck but palpation caused the patient to flinch and say it was painful; cervical glands enlarged. When asked to open the mouth she did so slowly and opened it about half way, saying it hurt to open it wider. Marked coated tongue; when asked to protrude it she did so slightly, complaining of pain. Anterior half looked practically normal in size, but the posterior part was swollen about twice its normal size and very tender to pressure. The tonsils were swollen and debris present in the crypts. Some edema of the uvula. With a laryngeal mirror he was able to elevate the palate and examine the base of the tongue. The epiglottis was swollen about twice its normal size and pushed back over the laryngeal opening so he was unable to see into the larynx. He did not try to pull the epiglottis forward for fear any manipulation might tend to increase the edema. On palpating the mass he was sure he ascertained fluctuation. She was eight months pregnant. Present trouble started about one week before; had a stiffness of the neck and throat and used the ordinary home remedies for three days, but did not improve; she could not talk well and it hurt to eat so she went to see her family doctor who said she had tonsillitis and treated her for the same. She went to see him again in two days, as her condition seemed to be growing worse; he painted her throat with medicine and told her to continue the treatment. That night she had a choking spell and could hardly

breathe, the family doctor was called and he recommended hot applications for the neck and a gargle. The next day her condition was worse and the family insisted on consultation; the doctor then gave antitoxin and suggested waiting. The following morning Dr. Cavanaugh was called.

Previous history: Patient had always been in good health except for sore throat; was married last July.

Family history: Father and mother living and well. She has four brothers and three sisters living and well; one sister was drowned in the Eastland disaster.

Dr. Cavanaugh ordered the patient sent to the hospital and on the afternoon of the same day he operated. She could not lie down, so he had her retain the sitting position and applied crystals of cocaine to the surface of the abscessed area. Having done this he placed the index finger of the left hand back beyond the mass, then followed with a curved scalpel, making an incision in a postero-anterior direction and in its center; a large quantity of pus and blood was expelled, and the patient said, "Oh, I feel better." He then made a couple of incisions into the anterior surface of the epiglottis because of the marked edema. Breathing was better and the patient coughed up a great deal of mucous. She was taken back to bed and an ice pack applied to the neck. She could not lie down. He ordered instruments ready in case of an emergency tracheotomy and remained at the hospital to see how she would respond. In half an hour he was called to the room and found the patient gasping for breath; he inserted his finger into the throat and pressed the epiglottis forward; a considerable thick mucus was coughed up and again she felt better; this occurred three or four times when it failed to give relief and the patient became cyanotic. He then did a rapid tracheotomy, introduced a tube and fed the patient oxygen; she quickly recovered. He made a tent over her bed and kept up continuous steam vapors.

The following morning, April 6th, the patient was feeling very good. Temperature, 100; respiration, 28; pulse, 130. That evening she began to have labor pains. Temperature, 102; respiration, 32; pulse, 140. The family doctor was called and he pronounced the baby dead and advised watchful waiting.

The following morning, April 7th, Dr. Cavanaugh removed the tracheotomy tube and closed the wound; the patient continued to breath without difficulty so he pulled the wound together with adhesive. Labor was induced that morning and about eleven o'clock he received word that the doctor had delivered a six-pound baby girl, alive and in good condition. From that on temperature, pulse and respiration gradually returned to normal and mother and baby left the hospital April 19th, two weeks from the day of entrance.

Cultures were taken in both media and blood agar. The broth culture showed a cloudiness of the media in eight hours. The blood agar showed a culture present in six hours. A plate blood agar showed hemolysis.

The second case, Miss B. H., age 29 years, consulted Dr. Cavanaugh at his office August 28, 1916, complaining of the feeling of a lump in her throat which she would try to cough out and swallow, each time she swallowed it seemed to feel better, but only for a second, otherwise she had no discomfort. Gave a history of syphilis and having had salvarsan a couple of times. She had a pyonephrosis of the left kidney. Was quite nervous and restless. A blood Wassermann reported negative.

Tonsillar glands were slightly palpable; no tenderness; teeth apparently in good condition; tongue freely movable, but patient said it felt a little stiff. Tonsils small and apparently innocent. No lymphoid enlargement at the base of the tongue or dilated veins. Epiglottis negative, hypopharynx and larynx negative, some small glandular enlargements on pharyngeal wall. Post nasal space negative. He gave her placebos and had her return in about a week, when he introduced an eosophagescope into the eosophagus, but found nothing. He told her to use steam inhalations and apply ten per cent. argyrol to throat twice daily. He made a diagnosis of globus hystericus. She then disappeared until May 29, 1917, when she returned complaining of some pain in the throat and a feeling of fullness and said she could not swallow right as there seemed to be something in the way. Making pressure on the tongue with the tongue depressor caused her to complain of pain; there was no apparent inflammation of the throat, but there seemed to be a little elevation of the dorsum of the tongue of the left side and palpation revealed a small mass the size of a hazelnut which was tender. Temperature and pulse were normal. He could not detect fluctuation. Transillumination with the pharyngoscope under the tongue showed a definite shadow outlining a mass. He introduced an aspirating needle and drew off about a dram of pus from which cultures were made that showed staphylococcus. The mass was incised and the patient made prompt recovery. Broth cultures showed cloudiness and sediment in forty-eight hours; agar slants gave a slight culture in thirty-six hours, abundant in forty-eight hours.

The sensation of foreign body in the throat which this patient had complained of the past nine months disappeared, and he believed that this abscess was present and lying dormant at the time. It had been suggested that this might have been a broken down gumma, but he did not think so, because healing was prompt and no specific treatment had been given for over a year. There was no necrotic tissue in the abscessed area.

## DISCUSSION.

Dr. L. W. Dean, (Iowa City, Iowa), said that about four weeks previously a patient came into his service with a diagnosis of abscess of the tongue; the patient himself had made the diagnosis. He said that about ten days before he had pain on swallowing which gradually increased and with the pain the swelling of the tongue developed until his mouth was filled and he was unable to swallow. The patient came with the mouth partially open, the swollen tongue protruding between the incisors and the mouth could not be closed. Because of the swelling, further examination of the mouth could not be made. The breathing was through the nose; temperature 103, no cervical adenitis, no swelling of the salivary glands. An examination was made under general anesthetic. Palpation of the back of the tongue with the finger revealed a mass apparently the size of a small hen's

egg which had no fluctuation. The mass had the same feel as a sarcoma of the base of the tongue. Using a curved bistoury, the mass was incised with the escape of just a little pus. There was a marked edema about the epiglottis. The patient showed evidence of laryngeal obstruction during the operation and a tracheotomy was performed. Ten hours after the operation the larynx was completely occluded, justifying the tracheotomy. The patient made a good recovery in about ten days.

Dr. Joseph Beck stated that he had had several cases of abscess of the tongue ,which he reported at the last meeting of the American Medical Association. One was not strictly an abscess of the tongue but the case was interesting in this connection. The patient was brought in by a physician who said he had been with him practically all the time for the two previous days. The patient had complained of difficulty in swallowing and breathing and the doctors made a diagnosis of probable abscess of the tongue. Local applications of a mild astringement gave some relief, but finally the distress in breathing became so great that the patient was brought to the hospital in a cab. He tried to walk from the door to the operating room but fell into the Doctor's arms and appeared to be struggling for air. Dr. Beck made a rapid tracheotomy, but there was no respiratory response in spite of all possible efforts. Post mortem showed an infected lingual thyroid. These cases are very rare. In a case of acute abscess of the tongue in which he made a deep incision in the tongue and evacuated the pus and gave relief from the edema which was present, he intubated, employing a large tube that would not be expelled so easy, which he felt sure did all that a tracheotomy would have done, with less traumatism. Some of these cases of abscess of the tongue had been shown by the work of Kümmel to be chiefly syphilitic, a secondary infection or a gumma.

Dr. E. B. Wunderlich thought if pyorrhea was present in a tooth that a secondary infection from syphilis would be very likely to cause an abscess. He had had a case of this sort in which the patient died ten months later. Post mortem showed a syphilitic condition and also pyorrhea. In another case there was marked pyorrhea.

Dr. Charles H. Long cited a case which he had under observation. The patient was a woman aged fifty-four years, who had a constant burning, sticking pain in the back of the tongue. The lingual and faucail tonsils were hypertrophied; the tongue itself was not swollen, not painful on pressure. There was no cough. The patient had lost twenty pounds in weight during the last nine months. There was no record of globus hystericus. The Wassermann test was being made, but he felt that the cause of the trouble had not yet been discovered. He doubted if the term "globus hystericus" had any real place in medicine. (Later; report Wassermann negative; diagnosis, without microscopical report, probable carcinoma of the tongue.)

Dr. Stanton A. Friedberg was of the opinion that etioligocal factors in the acute and chronic cases were entirely different. He thought infection could very readily occur through the lingual tonsil and through the papilla. The most striking characteristic was the difficulty and inability to move the tongue. Sometimes there would be an indurated area but seldom definite fluctuation. One other condition that might cause confusion in the acute cases was rheumatism of the tongue, where pain and stiffness were complained of on movement of the tongue.

Dr. Cavanaugh, closing, believed Dr. Dean might be correct in advising tracheotomy in the acute cases; he considered it a safe procedure.

As to Dr. Beck's intubating such cases, he considered this an excellent plan if one was thoroughly skilled in the introduction of the tube; otherwise, he thought tracheotomy was preferable.

He agreed that the abscess might occur as a result of infection from pyorrhea, but it had not been definitely decided as to where the infection came from.

He believed Dr. Long was right in thinking that globus hystericus had no place in medicine and thought the use of the term was often due to ignorance of the real trouble.

Dr. George W. Boot presented a paper entitled: "Diagnosis of Intracranial Ear Complications, With Report of Cases."

(*Abstract*)

These were brief accounts of some of the complications he had had in middle ear conditions. From these and from other cases not reported he concluded that the diagnosis of these complications was not easy, but required careful examination of the history, the symptoms, the functional tests and the laboratory findings.

In extra-dural abscess the most characteristic symptom was the severe one-sided headache in a patient who had or who had had a running ear.

In abscess of the left temporo-sphenoidal lobe the most characteristic symptom was loss of memory for names, with weakness of the facial muscles on the right side. If the abscess was in the right temporo-sphenoidal lobe memory for names was not lost unless the patient was left-handed, in which case it might be lost. Right-sided facial paresis might be present.

If the patient had a labyrinthitis, complete labyrinthitis, complete labryinthine deafness, anomalous pointing reactions, headache and choked disc, cerebellar abscess should be suspected, and when exploring for the abscess it should be remembered that it was apt to lie either near the internal meatus or over the saccus endolymphaticus. If the patient had rigid neck, positive Kernig and cloudy cerebrospinal fluid with increased polynuclear count the diagnosis of purulent meningitis was settled.

In the cases of thrombosis of the superior longitudinal sinus there was a lack of mental ability, an inability to comprehend what was said and to reply, that was quite characteristic when once seen, but which was difficult to describe. Nose bleed was a symptom to which Dr. Boot was inclined to attach considerable importance in the diagnosis of thrombosis of the superior longitudinal sinus.

Syphilis of the vessels, syphilitic meningitis and gumma usually lack the preceding middle ear suppuration. The symptoms were not apt to be confined to one side of the head and the Wassermann on the blood and cerebrospinal fluid gave an indication of the cause of the symptoms.

In conclusion, he said that when in doubt it was probably better to explore the brain than to omit such exploration. The exploration was best done by means of a double bladed explorer similar to the one designed by Dr. Gifford of Omaha.

DISCUSSION.

Dr. Joseph Beck thought the presentation of Dr. Boot was wonderful and that the county and city was to be congratulated on having a man on the Staff of the County Hospital who would devote so much time to that institution. The cases at the County Hospital were usually so severe that very few of them recovered because they required such extensive and experienced after-care.

He disagreed entirely with Dr. Boot's method of drainage with the rubber tube. It was obsolete and should not be employed. The abscess should be drained with rubber tissue, a sort of a cigarette drain, because the tube could fill up and became blocked with material from the abscess.

He had had the same experience as Dr. Boot in coming up to the abscess with a needle and not into it, the needle simply making an indentation and not puncturing the wall, but on post mortem the abscess was found.

He was glad to hear a new symptom of a thrombus of the longitudinal sinus, and wished Dr. Boot to state specifically regarding the other case of longitudinal sinus thrombosis, because he thought he had such a case at present in which he had made a diagnosis of typhoid fever. Nose bleed and headache were both present.

He had heard nothing mentioned about employing the symptom known as the Crow and Beck of Vienna, compression of the opposite side internal jugular and examination of the fundus oculi finding distended veins.

He thought some criticism might be expressed in making a diagnosis of periarthritis in connection with a mastoid. Why not think of a sinus thrombosis right away and explore?

Dr. George E. Shambaugh thought that the intracranial complications met with in connection with purulent disease of the middle ear are the most trying cases with which the otologist has to deal. The most frequent of these complications appear to be the extra-dural abscess, a complication which occurs so frequently with such indefinite symptoms that it is difficult to recognize clincially. It seems not unlikely that many of the cases of brain abscess owe their origin to a neglected extra-dural abscess which remained unrecognized until the formation of the brain abscess. He cited a couple of cases illustrating the difficulty in recognizing the extra-dural abscess.

One case was a woman of about fifty years of age, who consulted him several years ago, because of a persistent one-sided headache which had lasted for several months. Examination of the case discovered nothing intra-nasally to account for the headache. She had never been a victim of migraine. There was a history of discharging ear many years before on the affected side, but she stated that she had not had any discharge from the ear for several years. Examination, however, disclosed a marginal perforation in the upper posterior quadrant and the introduction of a cotton swab detected the slightest trace of moisture, which had, however, the charactertistic odor of a bone invading disease. On operating on the case the mastoid was found entirely sclerosed, a very much contracted antrum, and at the upper posterior angle was found a discolored tract leading off upwards and posteriorly. The tract was opened up for perhaps fully half an inch from the antrum, when a small extra-dural abscess was uncovered, containing only a few drops of thick creamy pus. The case made an uneventful recovery.

Another case was that of a physician, who came complaining of a persistent discharge from an ear which had been operated on for acute mastoid complication a couple of months previously. The patient seemed to be annoyed by discomfort in the head, which could hardly be described as a headache. There was a profuse purulent discharge escapting from a fistula in the original mastoid opening, with a slight temperature of not over 99.5 degrees. In exposing the mastoid it was found that the previous operation was limited to a small passage made to the antrum. The whole lower half of the mastoid still remained intact and contained large pneumatic spaces filled with pus. A complete exenteration of the mastoid was performed and it was believed that the persistence of a discharge was due especially to the involvement of the cells at the tip. The patient, however, did not get well and the persistence of symptoms in spite of the complete exenteration of the mastoid, made the diagnosis of some extra-mastoid complication probable. Another operation was undertaken and at the upper posterior angle of the mastoid an extra-dural abscess was discovered, the size of a small hazel nut and located fully three-quarters of an inch from the antrum.

It was in this particular location where the extra-dural abscess was most likely to be discovered and in this connection it was well to remember that the marginal cells of the mastoid, that is those located at a distance from the antrum, were, as a rule, much larger than the pneumatic spaces located in proximity to the antrum. This applied not only to the cells occupying the tip of the mastoid, but to those found along the posterior margin. The larger the cell involved in a suppurative process the less chance it had of getting well spontaneously.

*To be continued*

## Personals

Dr. Chas. C. Winning, E. St. Louis, has been appointed assistant county physician to succeed Dr. Roy Barker, who has entered military service.

Dr. C. C. Montgomery, Lincoln, was honorably discharged from the service owing to physical disability and has returned from Ft. Oglethorpe.

Dr. F. B. Fahrney, La Salle, has been commissioned acting assistant surgeon in the U. S. Public Health Service and ordered to report at Chester, Pa.

Dr. J. M. Miller, Villa Grove, was elected vice-president, and Drs. C. W. Hopkins and G. G. Dowdall, Chicago, members of the executive committee at the meeting of the American Association of Railway Surgeons at the convention in Chicago last month.

Dr. A. F. Stewart, who was honorably discharged from the service some months ago because of physical disabilities, has removed from Oneida to Galesburg and has resumed practice.

Dr. Samuel Dodds, Cairo, has responded to the Governor's appeal for help and has returned to state institution work. For the past thirteen years Dr. Dodds has been engaged in general practice and surgery in Cairo, where he was also a member of the Cairo Board of Education, coroner of Alexander County, member of Pension Board, and of the Army Medical Advisory Board, 24th District. He was a pioneer in that section in the fight against tuberculosis. Dr. Dodds is now on the staff at the Jacksonville State Hospital.

Dr. Adolphe R. Caron has been operated on in the Passavant Hospital. He expects to enter Red Cross service in France.

Dr. Philip F. Gillette, Elgin, has returned to his old position as assistant physician to the Elgin State Hospital.

Dr. H. I. Davis has been commissioned for service with the American Red Cross in France.

Drs. Samuel J. Walker, Chicago, and Charles B. Gibson, Chicago, are members of the Red Cross Commission that has started for Greece.

Major Edmund J. Doering, M. C., U. S. Army, president of the local board of examiners for the Medical Corps of the Army, has been promoted to the rank of lieutenant-colonel.

Dr. Frazier N. Cloyd, Danville, has been appointed surgeon for the New York Central Lines, to succeed Dr. George L. Williamson, Danville.

Dr. Henry F. Lewis resigned September 30 as professor and head of the department of obstetrics and gynecology in the School of Medicine of Loyola University.

Dr. James J. McGuinn, Chicago, has been appointed assistant commander of the medical zone in charge of the reconstruction of wounded soldiers in France by the American Red Cross and has started for his new post of duty.

Major Milton Mandel, M. C. U. S. Army, has been relieved from duty with Base Hospital No. 12, and has been appointed senior division consultant in general medicine to the Second Army Corps.

Major John M. Dodson, Chicago, medical aide to Governor Lowden, has perfected a plan whereby selective draft men in Class B, which is the remediable group, will be able to secure treatment before being inducted into service.

Dr. Jonathan L. Wiggins, East St. Louis, has been appointed by the director of Registration and Education of the State of Illinois a member of the examining committee of medicine in place of Dr. Carl E. Black, Jacksonville, who has resigned to go abroad with the Red Cross commission to Greece.

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The following Chicago physicians have been commissioned in the Medical Corps, U. S. Army:

*Lieutenant Colonel*—Edmond J. Doering.

*Majors*—Joseph C. Beck, N. C. Gilbert.

*Captains*—Henry P. Bagley, Frederick P. Blayney, John F. Clark, Charles L. Conroy, Francis Achilles Davis, Louis H. Friedrich, Jas. Graybeal, Harold K. Gibson, John M. Griffin, George B. Hassin, Burton Hazeltine, Francis P. Horan, Clarence D. King, Francis P. Machler, Arthur W. McClave, Otis M. Maclay, Jacob Myers, Gifford Osborne, Lucius B. Phelps, Ernest W. Pothoff, John H. Reeves, Charles E. Sceleth, Stephen G. West, Ulysses G. Windell.

*First Lieutenants*—William R. Abbott, Geo. L. Apfelbach, E. W. Andrews, Jr., Morris L. Arkin, Vahan I. Armen, Michael J. Badzmierowski, Christian M. Bernsten, Samuel A. Braun, Jas. E. Brooks, Don D. Burns, Forrest R. Butterfield, Frederick G. Carls, Ernest S. Cleveland, Chas. H. Connor, Chas. G. Cooley, Henry T. Cummings, Thos. F. Doyle, Jas. M. Durin, Alfred O. Ellison, Wolf Z. Felsher, Elmer H. Flinn, Oscar B. Funkhouser, John H. Gaff, Chas. F. Goetzinger, Leon Grotowski, William P. Gunn, Emory L. Hess, Willard G. Jeffries, David R. Johns, Otto L. Kahn, Henry R. Kinney, Frank C. Kloos, John E. Kloos, Sol Bernard Kositchek, Jove H. Kramer, Harry A. Kraus, Clarence A. Krogh, Jerome F. Kucera, Thomas F. Leatherwood, Victor N. Lamarre, Jack R. Lavieri, Thomas J. Lamping, Leslie M. Maitland, John W. Miller, Mac L. McLaughlin, Samuel Ochs, Paul O. Owsley, Louis J. Pint, Imas P. Rice, Frederick M. Schwarzel, Samuel Sher, Emanuel C. Skembare, Ralph W. E. Spreng, Robert E. Stobie, A. Streich, Frank E. Tinker, Benjamin F. Tubergen, Walter Tyler, Houston W. Vernon, John M. Vitullo, Wm. J. Wallingsford, Jos. G. Weidder, Earl E. Wilcox, John B. Wilcox, Geo. L. Wilson, Jr., Edwin F. Winterberger.

The following Illinois physicians have been commissioned in the Medical Corps, and have reported as indicated:

*Major*—Henry S. Keller, Edwardsville, Ft. Bliss.

*Captains*—W. A. Balcke, Pekin, Fort Riley; Henry H. Bryant, Galesburg; J. H. Bryant, Galesburg, Camp Grant; L. A. Burhans, Peoria, Camp Oglethorpe; Chas. G. Davies, Blue Island; Francis H. Fleege, Galena; Thomas W. Floyd, Peoria, Camp Custer; John C. Furlong, Spring Grove; Wm. A. Gott, Washington; J. C. Griffith, Bushnell, Camp Grant; Arthur Lee Hagler, Springfield, Fort Oglethorpe; J. D. Hawks, Cambridge, Camp Custer; Charles E. Hill, East St. Louis; Chas. P. Horan, Evanston, Fort Oglethorpe; Everett Mayos, Watertown, Camp Grant; Frank McLaughlin, Peoria, Camp Bradley; Frank G. Morrill, Havana; W. G. Murray, Kankakee; Edw. H. Parry, Galesburg; H. H. Rogers, Canton, Camp Shelby; H. H. Sheets, Oregon, Camp Oglethorpe; Otis, O. Stanley, Urbana; Louis N. Tate, Galesburg, Fort Riley; L. G. Voigt, Freeport, Camp Grant; John C. West, Batavia; Harry Wood, Batchtown, Camp Meade; Willis Terry Zeigler, Canton, Fort Riley.

*First Lieutenants*—Cecil H. Baker, Altamont; Dr. Balensiefer, Peru, Camp Oglethorpe; Roy F. Barker, East St. Louis; Dr. Charles Bates, Roodhouse; Geo. S. Betts, Banner, Fort Oglethorpe; Edmund A. Behrendt, Bloomington; Leon Beilin, Springfield, Camp Taylor; Geo. B. Dorman, Waukegan, Fort Oglethorpe; John D. Byrne, DuQuoin; Clyde L. Casey, Jr., Carbondale, Camp Greenleaf; W. D. Chrisman, Bradford, Camp Grant; Walter M. Caton, Mason City; Wm. T. Collins, Freeport; H. A. Cunningham, Salem, Fort Riley; Chas. H. Dowsett, Woodlawn; H. L. Fisher, Kewanee, Montgomery, Ala.; Walter E. Foster, Richmond; Isaac F. Freemel, Jacksonville; August M. Fromm, Ramsey; Frederick G. Green, Bloomingdale; Burt H. Hardinger, Mattoon; M. L.

Hartman, Garden Prairie, Fort Riley; Louis Hartrick, Seymour; Leonard J. Hensler, Carrolltown; Hamilton T. King, Joliet; Dana M. Littlejohn, Pana, Fort Oglethorpe; Henry A. Long, Effingham; David H. McCarthy, Springfield; Thomas H. McLin, Jacksonville; Homer P. MacNamara, Granite City, Fort Riley; John C. Mettstein, Effingham; Clarence W. Milligan, Springfield; Ernest Montgomery, Cowden; Arthur C. Moorehead, Leland; John C. Murphy, Ridgeway; Warren G. Murray, Kankakee; C. M. Murrell, Matherville; M. A. Nix, Princeton, Fort Riley; S. M. Pittman, Greenbush, Camp Oglethorpe; Walter J. Ream, Spring Valley; C. E. Robb, Moline, Fort Oglethorpe; Jacob Rodge, Apple River; James C. Russell, Oakford; B. F. Schroeder, Princeton, Fort Riley; Jas. R. Sholl, Peoria; Richard V. Spencer, Chicago Heights; Clyde L. Vanatta, Hidalgo; Bert L. Vilne, Cicero; Enfer C. Webster, Bible Grove; Geo. W. Westermeier, Carlinville; Clifford V. Winsett, Tampico.

*Second Lieutenant*—C. A. Moore, Carlinville.

## News Notes

—The annual meeting of the American Public Health Association was postponed to December 9, on account of the influenza epidemic which prevented many members in the East from attending at the date in October originally announced.

—The following doctors of Montgomery County are in the service: Doctors Adams, Barlow, Bennett, Bullington, Canady, Clotfelter, Cox, Douglas, Ford, Griswold, Hamilton, Hayes, Hoyt, Kilton, Lindberg, Luell, Telfer, Tupper and Zoller.

—It is announced that the new Field Columbian Museum, Grant Park, Chicago, has been offered to the government as a war hospital, and that the offer has been accepted. The building is to be remodeled so as to accommodate 4,300 sick and wounded soldiers, and the construction of a number of buildings for the use of nurses is to be begun at once. The building is on a site 6 acres in extent.

—Dr. Ethan Allen Gray continues his association with Edward Sanatorium in the capacity of consulting physician. Close cooperation has been entered into between the two institutions of Fresh Air Hospital and Edward Sanatorium to the great advantage of the patients and to both institutions. Edward Sanatorium was not intended for very sick patients so that far advanced cases are now sent to Fresh Air Hospital, where they remain until they are able to be about and are then transferred to Edward Sanatorium.

—At the meeting of the Executive Committee of the Chicago Tuberculosis Institute held Monday, October 21, Herbert W. Gray, M. D., was unanimously elected attending physician for Edward Sanatorium at Naperville, Ill. Dr. Gray begins his service at the sanatorium immediately and will examine all patients for admission to the institution at his office at 30 North Michigan boulevard, Room 1308. His office hours are from 1 to 2, and physicians desiring to send patients for examination will kindly send patients at that time.

## Marriages

Willis Townsend Hinman to Miss Hazel Vance, both of Moline, Ill., September 24.

William D. Snively, Rock Island, Ill., to Miss Emma G. Butler of Washington, D. C., September 12.

Lieut. Michael Francis McGuire, M. R. C., U. S. Army, Chicago, to Miss Rhea F. Ferrin of Jamestown, N. Y., September 25.

Lieut. Robert Percival Parsons, Assistant Surgeon, U. S. Navy, Chicago, on duty at Deer Island, Boston, to Miss Marion L. Murray of Allston, Boston, recently.

Lieut. Edward Buckman, M. C., U. S. Army, Chicago, on duty with the Eighty-fifth Division, Camp Custer, Mich., and now overseas, to Miss Alfreda Hartenstein of Vicksburg, Miss., at Battle Creek, Mich., recently.

## Deaths

Edward J. Buckley, Oak Park, Ill.; Rush Medical College, 1904; aged 40; died at the home of his parents in Lombard, Ill., September 24.

John Flood, Chicago; Bennett Medical College, Chicago, 1873; Rush Medical College, 1889; aged 68; died at his home, September 28, from pneumonia.

Vachel Thomas Lindsay, Springfield, Ill.; Miami Medical College, Cincinnati, 1869; aged 73; died in the Springfield Hospital, September 20.

Leo Henry Rahling, Chicago; Northwestern University Medical School, 1906; aged 36; died at his home, september 30, from bronchopneumonia.

BENJAMIN J. SEE, Harris, Ill. (license, years of practice, Illinois, 1878); aged 94; a practitioner for sixty-five years; died at the home of his son in Paris, October 11.

LOU N. BYERS, Aurora, Ill.; Chicago College of Medicine and Surgery, 1911; aged 33; a Fellow of the American Medical Association; died at her home in Aurora, October 3, from pneumonia.

HARVEY F. EICHMAN, Chicago; Chicago College of Medicine and Surgery, 1910; aged 40; a Fellow of the American Medical Association; died at his home, October 14, from pneumonia, following influenza.

JOHN AIMONE, Granville, Ill.; University of Illinois, Chicago, 1907; aged 37; a Fellow of the American Medical Association; died at his home, October 4, from pneumonia, following influenza.

LEO GERNAND MAURY, Chicago; Northwestern University Medical School, Chicago, 1918; aged 23; an intern in Michael Reese Hospital; died in that institution, October 19, from influenza.

LIEUT. MORRIS FINKELBERG, M. C., U. S. Army, Spring Valley, Ill.; Loyola University, Chicago, 1908; aged 31; a Fellow of the American Medical Association; was killed in action in France, September 15.

LOUIS H. GEIGER, Gilman, Ill.; University of Illinois, Chicago, 1903; aged 45; a member of the Illinois State Medical Society; died at St. Luke's Hospital, Chicago, October 9, from diabetes.

ROBERT C. MITCHELL, Belvidere, Ill.; Chicago Homeopathic Medical College, 1901; aged 49; a Fellow of the American Medical Association; died at his home, October 7, from pneumonia.

HARRY WILLIAM PRIEM, Chicago; Rush Medical College, 1914; aged 30; a Fellow of the American Medical Association; died at his home, October 9, from pneumonia, following influenza.

EDWIN EVERETT BOND, Stronghurst, Ill.; Northwestern University Medical School, Chicago, 1909; aged 32; a Fellow of the American Medical Association; died October 5, in the Galesburg Hospital, from pneumonia, following influenza.

LIEUT. PHILIP FRANK SHAFFNER, M. C., U. S. Army, Chicago; Rush Medical College, 1909; age 33; a Fellow of the American Medical Association, and a specialist on dermatology; on duty at Fort Riley, Kan.; died at that post, Oct. 21, after an operation for appendicitis.

WILLIAM H. WELLS, Stronghurst, Ill.; University of Illinois, Chicago, 1897; aged 57; a Fellow of the American Medical Association; died in the Galesburg Hospital, October 5, from pneumonia, following influenza.

RAYMOND LOCKWOOD LEONARD, Chicago; Rush Medical College, 1872; aged 68; a Fellow of the American Medical Association; died in the Post-Graduate Hospital, Chicago, October 19, from carcinoma of the bladder, following an exploratory cystotomy.

JULIUS BACHRACH, Joliet, Ill.; Jenner Medical College, Chicago, 1912; Chicago College of Medicine and Surgery, 1912; aged 40; a Fellow of the American Medical Association; died at his home, October 7, from pneumonia.

GEORGE AUGUST COLIN, Chicago; Illinois Medical College, Chicago, 1903; aged 37; a Fellow of the American Medical Association; also a druggist; died at his home, October 10, from bronchial pneumonia, following influenza.

CAPT. GEORGE SHRADER MATHERS, M. C., U. S. Army, Chicago; Rush Medical College, 1913; a son of Dr. William R. Mathers, Prosper, Texas; a Fellow of the American Medical Association; died in Baltimore, October 5, of pneumonia, aged 31.

ROBERT JARVIS MITCHELL, Girard, Ill.; Rush Medical College, 1871; aged 74; a Fellow of the American Medical Association, and a charter member of the Macoupin County Medical Society, of which he was once president; for ten years president of the Girard board of education; died at his home, September 8.

LIEUT. HENRY JOSEPH ROEWE, M. C., U. S. Army, Chicago; Northwestern University Medical School, Chicago, 1918; aged 26; a Fellow of the American Medical Association; an intern at Michael Reese Hospital; died in that institution, October 25, from influenza.

HAROLD R. DWYER, Chicago; Rush Medical College, 1895; aged 49; at one time a member of the Illinois State Medical Society; an officer of the city health department for sixteen years; high physician of Illinois, United Order of Foresters; died at the Contagious Disease Hospital, Chicago, October 20, from diphtheria.

LIEUT. HARRY PAUL MARTIN, M. C., U. S. Army, Chicago; on duty at Camp Custer, Battle Creek, Mich.; Rush Medical College, 1916; aged 38; a Fellow of the American Medical Association; on duty with the Fourteenth Sanitary Train, Two Hundred and Fifty-Sixth Field Hospital; died at Camp Custer, October 13, from pneumonia.

HERBERT MARION STOWE, Chicago; Rush Medical College, 1896; aged 44; a Fellow of the American Medical Association; assistant professor of obstetrics in Northwestern University Medical School; assistant obstetrician to Provident Hospital; attending obstetrician to the Chicago Lying-In Hospital, and a member of the staffs of Cook County and Mercy hospitals; died October 21, from appendicitis.

LIEUT. ARTHUR LEWIS BEYERLEIN, M. C., U. S. Army, Chicago; University of Illinois, Chicago, 1912; aged 30; a Fellow of the American Medical Association; who was in the government service in the Canal Zone from 1910 to 1916, and was later on duty in the orthopedic department of the Walter Reed General Hospital, Washington, D. C.; died in that institution, October 10, from bronchial pneumonia, following influenza.

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